THE ZODIAC.

DEVOTED TO SCIENCE, LITERATURE AND THE ARTS.

VOL. I. ALBANY, APRIL, 1836. No. 10.

(For the Zodiac.)

The following lines were written for and sung at the opening of a Literary Institution.

I.

We consecrate these halls,
To be the home of mind;
And long within their walls,
Its light shall be enshrined.
Here shall the rays of science shed,
An halo bright, round every head.

II.

We meet beneath that hill,
Where nature takes her throne,
And in that vale, which still,
Is bound with Beauty's zone.
Here shall the fount of knowledge spring,
Here peace extend her balmy wing.

III.

Beneath these classic shades,
Philosophy shall reign;
While in those verdant glades,
Repose her sister train.
Here, may the dews of heaven descend!
Here joys awake, which ne'er shall end!

A. D. WOODBRIDGE.

Stockbridge, Mass. 1836.

(For the Zodiac.)

IMPROMPTU—TO ELIZA.

It is a fearful night, the winds
Are howling mournfully around,
Like wandering spirits, doomed to find
No rest upon the ground;
No rest in air, no rest on high,
No rest on land or sea—
Ah, listen! now they're moaning nigh,
Now on their course they flee.

Such was my fate!—so doom'd to roam,
My spirit knew no rest;
It sought in vain to find a home,
To bless—and to be blest.
My heart a pilgrimage had made,
In search of Love's fond shrine,
But found it not—till with thine aid,
'Twas found in *thee*, and *thine*.

Friday evening, 18th March, 1836. A. D. W.

Taurus, the bull ♉, a northern sign, contains one hundred and forty stars, and is said to be so named from the celebrated abduction of Europa.

Candidus auratis aperit cum cornibus annum,
Taurus. *Virgil.*

Sweet April, many a thought
Is wedded unto thee, as hearts are wed;
Nor shall they fail, till to its autumn brought,
Life's golden fruit is shed. *Longfellow.*

(For the Zodiac.)

A WINTER VISIT TO QUEBEC—No. I.

BY A SON OF MRS. HEMANS.

DEAR ———.—It will be needless to give you a description of that part of Maine through which we passed, on our way to the American Siberia, it being already well known to you. Suffice it to say, that after passing through a dreary wilderness of stumps, and some wild and picturesque mountain scenery, we at length reached the "Height of Land" which marks the boundary line between Maine and Canada, and which, as the mile-stone informed us, is 30 leagues or 90 miles from Quebec. From this eminence, an extensive prospect is commanded. To the north, a gradually sloping plain extends as far as the eye can reach, presenting one uniform mass of wood, relieved only by a long shadowy line of hills in the distance. To the north, the bold high mountains of Maine, whose abrupt outlines were somewhat softened by the thick growth of the dark pine trees. The whole scene little changed, probably, from its aboriginal appearance.

Our Canadian cariole, with its tandem team, glided swiftly down the hill, and we were soon enveloped in the gloomy forests. There is something so oppressive in their solemn silence and unbroken monotony, that the journey through them would have been really intolerable without a companion, and indeed however chatty and pleasant, in ordinary circumstances, one's fellow travellers may be, it seems almost impossible to avoid catching something of the dullness of the surrounding scene, and of the silence which seems to enter into the very soul.

The stage we were in was open, and divided into three partitions, two for the passengers and one for the driver, who never sits, it being a part of his duty to balance the cariole, by springing from side to side as occasion may require. The Canadians treat their horses with very little tenderness—they beat them without mercy, and are so much in the habit of jerking the reins and sawing the horse's mouth with the bit, that a tender-mouthed horse is rarely to be met with. We soon observed a marked difference in the quality of the roads from those on the American side of the lines.

The Canadian winter roads are narrow and full of "Cahots," as they are termed, owing to the universal practice of driving tandem teams, and to the peculiar formation of the carioles, which are made with low runners, that run almost parallel with the ground, instead of being turned up, and thereby dig up the snow. The low runners are otherwise objectionable, as they plough the snow in such a manner as to impede the progress of the cariole; they are, notwithstanding, in general use in the Lower Province—in the Upper, high runners are used.

With all these disadvantages, the Canadian cariole is much handsomer in appearance, and is more compact and comfortable than the American sleigh. They are easier to get in and out of, and are provided with a better and handsomer furniture of skins, and are also well varnished and painted black.

On emerging from the woods, with much the same feelings with which a miner, long buried in the earth, might be supposed to hail the light of day, we came to a "clearing"—thickly studded, however, with stumps—which formed an oblong square; and by a wreath of smoke curling against the blue sky, became aware of our approach to a human habitation. This we found to be a sort of traveller's rest, kept by an Irishman, of a most primitive description, being built of logs, the interstices between which were stuffed with moss.

There was one common apartment, into which we all huddled, half frozen, by our exposure to the weather in the open cariole. Round a fire-place of

extraordinary dimensions, well filled by a liberal pile of wood, sat several Canadians, habited in the usual gray overcoat and sash, and also provided with good stout "souliers de bœuf," or ox-hide moccasins. The room was filled with the smoke of Canadian tobacco, which has a very peculiar smell, somewhat resembling that of valerian.

Proceeding on our journey we came to the river De Loup, when the country gradually assumed a more settled appearance, and the rude log-houses of the more adventurous British settlers, were succeeded by the snug cottages of the social and unenterprising "Habitans." These, from the meeting of the rivers De Loup and Chaudiere—so called from the boiling of its waters in some hollow rocks, through which it passes—become more and more thickly scattered. They were all built on the same model—square shaped, of one story in height, high steep roofs, to prevent the snow from lodging, and a flight of steps to the door, which is raised a good deal above the level of the ground. It was curious to see the ovens standing apart from the houses, made of bricks and roofed with clay, of much the same dimensions and appearance as a pig-stye.

Of course, baking is impracticable except in fine weather, to obviate which inconvenience, the Habitans make their loaves of an immense size, and bake very seldom; thus wisely accommodating themselves to circumstances. The superiority of an indoor oven has not only seldom occurred to these simple people, but where it has, the bright idea has been turned to such small account, that they have placed it *behind* the fire, which must be extinguished for the purpose of baking. The use of stoves is universal, and they throw out so intense a heat as to render the atmosphere of their houses intolerable to any but a "Habitant." The children, in consequence, have none of the bloom and freshness one would expect to meet with in a climate like that of Canada—they are pale and delicate looking, though frequently pretty and interesting.

We had soon abundant evidence of our being no longer in the land of the Puritans, from the large crosses—their abomination—erected along the road side. These were sometimes furnished with the bleeding image of our Lord, presenting a most revolting spectacle, and sometimes with the various implements used at the crucifixion, carved in wood and ranged on the arms of the cross. Round the cross, there is usually a small enclosure railed off, where pious devotees are to be seen, counting their beads and muttering their Pater-nosters.

Much fatigued, we at length reached St. Mary's, terribly frost-bitten, in spite of the constant rubbing of ears and noses we had maintained.

Quebec, March, 1836.

(For the Zodiac.)

THE 104TH ANNIVERSARY OF WASHINGTON'S BIRTH DAY.

BY E. D. TOWNER.

Wild o'er the ocean swept the blast,
And sternly rang its deaf'ning roar,
When, 'neath the storm-clouds gathering fast,
Our fathers sought a sterile shore.
They left the bright land of their birth,
For freedom from its soil had fled—
To them the bleakest spot on earth
Was joyous, where *her* light was shed.

Years rolled away—the wilderness
Put off its rugged robes, and smiled,
Whilst o'er the scene to cheer and bless,
Peace shed her influence bland and mild.
Up from the wild wood went the hymn
Of triumph, on the sainted air—
And from the forest drear and dim,
Rose the sweet sounds of praise and prayer.

Then darkly from his blackened halls,
Oppression look'd, and seized the chain,
And grimly from his blood-shot balls,
Gleam'd the fierce glance of rage and pain.
And slept the pilgrim's courage then?
Quench'd was his fiery zeal and gone?
Crush'd was the spirit of those men,
To whom life—liberty—were one?

No! on His arm who aye had staid
And kept them in the darkest hour,
Their hope and trust, our fathers laid,
Then met the tyrant's gathering power.
Heaven heard their cry, and nerved the hand
Of weakness with a giant's might;
And, leader of that patriot band,
Sent *Washington*, to guide the fight.

They conquer'd—and the victory won,
Loud, loud to God their praises rung,
Whilst round the name of Washington,
Millions in holy rapture clung.
To bless the mem'ry of our sires,
We gladly hail this day's return,
And swear to guard the sacred fires,
Which bright round freedom's altars burn.

Feb. 22, 1836.

(For the Zodiac.)

NOTES OF A PEDESTRIAN.

Continued.

In proceeding onward to the Delaware river, the lofty ranges which bound this widely extended valley on either side, are seen gradually to converge, until after passing the confines of the state of New-York, where they approach each other so near, as barely to admit a passage to that turbulent stream, in its progress along. The ridges situated to the right, have been most commonly denominated the Blue hills, in consideration of the beautiful azure hues they exhibit in the distance, when no clouds obscure them from the sight, and they may with safety be regarded as a continuation of the Catskill mountains, pursuing their course in a direction to the southwest, to blend themselves with those of the great Alleghanies, of which they are considered a dismembered branch, and one, by no means inconsiderable. On the other hand, the Shawangunk range, rising immediately from the edge of the canal, soon attains an eminence, lofty indeed, the western slope of which, exhibits the strata, as they by degrees become more and more upright, until they assume a position as nearly vertical, as they are fairly capable of being placed. The out cropping edges of these strata terminate at distances extremely irregular, which, together with the numerous fissures that traverse them in directions so different, easily furnish an ample supply of soil, to maintain the heavy growth of forest trees by which they are covered, whilst their presenting surfaces, beneath, are all over bedecked with a luxuriant display of mosses, and lichens, varying as greatly in their species as they do in the variety of their peculiar tints. All of these when combined in one view, give to the scene an aspect, which is at once, strikingly wild, cragged, and pleasing to behold. Along this valley, all the way to the Delaware river, some of the strata of the carboniferous limestones may at different intervals be seen, emerging through the soil, from beneath the millstone grits and shales, which compose the blue hills, cropping out towards the southeast, and displaying their terminating edges, directly upon the superior grits of the grauwacke shales, that constitute the entire range of the Shawangunk mountains; and wherever these intervals occur, good lime is most generally manufactured from them by the neighboring inhabitants.

About thirty-five miles from Eddyville, at a place containing a few scattered dwellings, dignified by the appellation of Frantzville, I was informed that anthracite of a good quality had been discovered a short time previous, at no great distance among the western hills, and a collection of specimens were shown me, which it was stated had been there procured; upon inspecting them, attentively, I soon satisfied myself that they had been obtained from some of the inferior strata of the millstone grits, and shales, corresponding precisely, both in appearance and geological position, with those so commonly met with in the counties of Albany, Otsego, and also in several other situations along the northern termination of this series of rocks. As we have no knowledge that this important mineral has ever been found to any great extent in the shales of this series, I therefore deem it a very questionable circumstance, that it should here be found, or at any other of the places above mentioned in considerable quantities. The certain positions of workable anthracite, and bituminous coals, are, with extremely rare exceptions, exclusively confined to the coal measures of Conybeare and Phillips, whose true geological situation is always directly upon the millstone grits and shales of the same authors, and I doubt exceedingly if they ever can be found in any portion of the state of New-York,—the latter mentioned rocks being the most recently indurated ones as yet discovered within its confines, and they constitute the Catskill mountains, and the whole of the southern tier of counties, from the Hudson river, in a continuous manner, all the way to the shores of Lake Erie. It is near this place that an extensive sphagnous swamp has its commencement, and continues, almost uninterruptedly, to Port Jervis, a distance of about twenty-five miles, forming a principal portion of the floor of the valley, and is for the most part completely covered with wild and dense forests, consisting principally of the following trees and shrubs. Poison ash (Rhus venenata, De Candolle,) red maple (Acer rubrum, Linnæus,) alder, (Alnus serrulata, Willdenow,) black birch, (Betula lenta Linnæus,) button wood, (Plantanus occidentalis, Linn.) Of this fine tree there appear to be two varieties, distinguished as the yellow, and the white sycamores. Black oak, (Quercus tinctoria, Bartram,) swamp white oak, (Q. bicola, Willd.) chesnut, (Castanea vesca, Willd.) hoop ash, (Celtis occidentalis, Linn.) hackmatack, (Pinus pendula, Aiton,) black spruce, (P. nigra, Ait.) and white cedar, (Cupressus thyoides, Linn.) Wherever these forest trees are not so dense, openings in the rich sphagnum exhibit numerous pools of water, tinged of a dingy hue, which abound with several fine species of tortoises; those most conspicuously to be seen and which I think are the only ones here to be found, were the beautiful painted tortoise, (Testudo picta, of Le Conte,) the spotted tortoise (T. punctata, Le Conte,) and also what is termed in the northern states the snapping turtle, (T. serpentina, Le Conte.) This last named species, at this place, grows to an enormous extent: the superior shell of one that I saw, measured nearly two feet in length, and I was informed that they were not unfrequently obtained far exceeding that in their dimensions. Scattered at various intervals throughout this mo-

rass, and also along the adjoining plain, are occasionally to be seen arable patches of fertile lands; many of which are still occupied by ancient Indian orchards, containing venerable apples trees, which the disintegrating hand of time has not yet entirely obliterated,—furnishing sad memorials of a once powerful and warlike tribe, which, for an unknown space of time, held undisputed sway over this peaceful vale; and since then, have silently withered from the face of the earth, before the encroaching influence of civilized life, leaving scarcely a vestige of their prowess, and of their history, barely a name.

The canal, from Westbrookville to Port Jervis, a distance of about twenty-two miles, skirts the base of the western range of hills, and, in some instances, it is excavated from their shales. From among these shales at different situations along their course, it is that the beautiful flags are obtained in such quantities, to be transported on the waters of the canal, to the Hudson river, and there again shipped to the appropriate markets. They are of an excellent quality, and may be procured in the greatest profusion, and with but little labor and expense, not only at this place, but also at the Catskills and elsewhere throughout the state, wherever these grits and shales occur. Superior grindstones likewise may easily be manufactured from the finer varieties of these grits, and the materials from which to work them, can with an equal facility be procured.

Port Jervis is beautifully situated, at a distance of sixty miles from the Hudson river, and just at the great bend of the Delaware, and where that river abruptly changes its course from a southeast to a southwest direction. It is of a quite recent date, and though small, appears in a thriving condition, bidding fair, I think, at some future period, to become a place of no inconsiderable importance; it possesses an excellent water privilege, upon which are already placed a grist-mill, one for the grinding of plaster, and also a building for the manufacturing of oil. It is but a short distance from this place that the contemplated state road is laid out to pass through the blue ridge, and after crossing the level plain of the valley, to proceed through the Shawangunk mountains in its passage to the city of New-York. Two passes in this last named range have been selected, but which particular one will prove the most feasible has not yet been determined.

The canal to this place is by no means in as fair a condition as the amount of transportation upon its waters necessarily requires: the banks and locks, are, in many places, in a wretched state. When constructed, it had a regular width of thirty-six feet, and an average depth of four; but at the present time, the sloping surfaces of its banks have by degrees, here and there, settled in, so that ladened boats are unable to pass each other, and frequently become stranded, when they are compelled to discharge a portion of their cargoes on the shores, in order once again to float; every few miles can plainly furnish evidences of this fact, from the quantities of anthracite to be seen distributed in heaps as you proceed along. Many of the stone locks are also much out of repair, freely discharging as large a quantity of water, through the numerous fissures in the side walls, as can readily obtain a passage by the regular flood gates. In all works of this nature, this is a sad piece of negligence; small injuries should always be attended to immediately on their discovery, when the expense will not exceed, comparatively, a mere trifle; whereas, if they are suffered to go on increasing—and that they do most speedily—they very soon magnify and become a ruinous expense to the proprietors.

Within the last week, the common passenger pigeons (Columba migratoria of Wilson,) have been exceedingly numerous, covering the whole heavens in widely spreading flocks, both at the early and latter parts of the day, flying in a direction towards the north; no doubt on their passage to those extensive forests of beech, that so beautifully skirt the base of the Catskill mountains; the mast which has there been so abundantly produced during the last season, being fully capable of furnishing them with a rich repast of the food that they so peculiarly relish. The inhabitants of the vicinity have all been on the alert, to ensnare them in their artfully spread nets; immense numbers of them are daily thus obtained. The direction of their flight, so near to the close of the year, is doubtless an indication of a further continuance of the mild pleasant weather we at present experience.

After leaving Port Jervis the canal turns abruptly into the blue ridge, and follows the course of the Delaware river through it, for the distance of about fifteen miles; winding gracefully along the base of a perpendicular cliff, which rises some hundreds of feet in the air, composed exclusively of the millstone grits and shales, beautifully characterized, from a portion of which it has been principally excavated; and upon elevating the eye, the unwary traveller beholds ponderous masses of the shelving strata projecting far over his head, threatening each instant to disunite and tumble down with a tremendous crash, to dash him to atoms beneath the ruins. The rocks of this series are here most elegantly displayed, being that part which are situated about midway among them, very near to where the red sandstone strata become entirely obliterated. These red sandstones, by the minutenes of their particles, have been converted into a fine grained shale, consisting of layers exceedingly thin, arranged in frequent alternations with the finer varieties of the grits, each alternation by degrees becoming thicker and thicker, and much coarser in their ingredients, as they ascend, until they terminate at the upper part of the series in a coarse conglomerate. All of these strata appear to dip at a considerable inclination in a direction towards the north, and the majority of them abound in organic remains, belonging chiefly to the vegetable kingdom, corresponding precisely with those so abundantly to be met with in ascending the zigzag road, to the mountain house of Pine Orchard, from below. At this place also, the hills appear to have had the singular disposition of arranging themselves in magnificent groups, each individual one that composes them, assuming the forms of stupendous pyramids, which, in many places, exhibit some of the wildest, and most picturesque scenery that the eye delights to witness.

(For the Zodiac.)

TO THE TIBER.

Roll on thou classic stream! thou oft hast borne
The Roman galleys onward in their way;
Once bright as rays that deck the golden morn,
And beauteous as the mellow close of day;
Where are those galleys now, fair stream, oh, say?
Do they still onward sweep in all their pride?
No! distant far, they sank into decay,
Their keels long since lost 'neath the swollen tide—
Such are the baubles in which men confide!

Thou roll'dst then on, when feeble first, and few,
To thy lone hills a warrior band there came—
But they were fearless, and their hearts were true,
And soon their leaders won a deathless name,
Above them soon the standard high of Fame,
Was proudly to the southern breeze unfurled,
And on that banner they inscribed a claim,
That proud defiance to all nations hurl'd—
Rome is the queen, and sways a captive world!

And Rome then rang with joy—thy mighty walls,
Thy seven hills then gave back the sound again,
The voice of genius echoed through thy halls—
And proudly rang before thy temple's fane;
Fair Science flourished on each verdant plain,
And wealth came pouring in, from vanquished lands;
Thy fleets rode conquering o'er the foaming main,
And empires bowed before thy dauntless bands,
From farthest Britain's shore, to Afric's burning sands!

Still do thy lessen'd waves roll to the sea;
But where are now the noble and the brave,
That trod thy banks—the bondmen and the free—
The mail-clad warrior and the fettered slave?
They moulder on thy banks, or 'neath thy wave—
From that proud city's temples they are fled—
They sleep in death—all rest in one dark grave;
While thou still rollest in thy ancient bed—
Thou, thou alone art left, beside thy mighty dead!

And Rome's proud battlements, to the blue skies
Do they still lift their glittering domes and tow'rs,
Beside thy waters do they gladly rise,
As erst they did in her proud triumph's hours?
O'er all her mouldering walls destruction lowers—
Time has flown o'er her with resistless sweep—
And Rome has sunk beneath his withering powers,
No hand to save her, and no spell to keep!
A ruined pile to gaze at, and o'er which to weep!

EDITH.

We are indebted to the kindness of Robert Balmanno, Esq., of Geneva, for a copy of the pamphlet which we to-day commence re-publishing.—Drawn up by Sir John F. W. Herschell, as a report to the South African Literary and Philosophical Institution, its directions and suggestions were deemed so important as to induce Henry Beaufoy, Esquire, of London, one of the most munificent patrons of science, to print an edition of it for private distribution. In our own state the meteorological collections, made under the directions of the Regents of the University, are for extent and value, among the grandest national contributions to science, and have given an impulse to the study to which we are happy thus to lend our aid. Those who make themselves acquainted with these instructions, will have overcome some of the greatest difficulties hitherto in the way of philosophical observers. This is the first time they have been presented to the American public.

INSTRUCTIONS

FOR MAKING AND REGISTERING METEOROLOGICAL OBSERVATIONS AT VARIOUS STATIONS IN SOUTHERN AFRICA, AND OTHER COUNTRIES.

The great importance of possessing an exact and carefully registered account of the variations of the Barometer, Thermometer, and other meteorological instruments, and of the winds and weather, has determined the South African Literary and Philosophical Institution to request the assistance of its correspondents and of all who may have leisure and inclination for observations of the kind, towards the gradual accumulation of a continued and extensive series of Meteorological Journals, and towards carrying into effect a concerted plan of contemporaneous observations, on stated days, from which it is conceived that much advantage will be derived.—The institution therefore solicits the attention of its correspondents, and of the lovers of knowledge generally, to this object—and earnestly requests their co-operation in making, arranging, and forwarding to its secretary, resident in Cape Town, observa-

tions of the nature, and, so far as practicable, according to the plan of those hereafter detailed.—Such observations alone can furnish the materials necessary for an accurate and scientific inquiry into the laws of *climate*, regarded as an object of local interest, and are the only data through which (taken in conjunction with the known laws of physics) the more general relations of meteorology can be successfully investigated.

It can scarcely be necessary to insist on the practical importance of this science to the agriculturist, to the navigator, and indeed in every branch of human affairs, or to dilate on the benefits which must accrue to mankind in general, from any successful attempts to subject to reasonable and well grounded prediction the irregular and seemingly capricious course of the seasons and the winds; or on the advantages, purely scientific, which must arise from a systematic development of laws, exemplified on the great scale in the periodical changes of the atmosphere, depending, as they do, on the agency of all the most influential elements, and embracing in their scope every branch of physical science. It is more to the present purpose to observe that, from what has already been done in this department of human knowledge, there is every reason to hope that no very distant period may put us in possession of the key to many of the most intricate meteorological phenomena, and enable us, though not to predict with certainty the state of the weather at any given time and place, yet at least to form something like a probable conjecture as to what will be the general course of the next ensuing season—perhaps to prepare us beforehand for violent and long continued gales of wind—great drought—or extraordinarily wet seasons, &c., in the same manner that our knowledge of the nature and laws of the tides, although confessedly imperfect, and in great measure empirical, yet enables us to announce beforehand, unusually high or low tides. No doubt such predictions of the weather, although only of a probable nature, would be highly valuable and useful, and would materially influence the practice of men in all operations thereon depending. In illustration of this, we need only refer to the value set by many farmers and others on weather-tables founded on no sound principles, and ratified, at best, if at all, only by a very partial and limited experience—or, to choose a better instance, we may cite the importance which is now attached by every seaman to the indications of the Barometer, and the numerous cases with which nautical records abound, of great mischief, or even shipwreck, avoided by timely attention to its warnings.

Meteorology, however, is one of the most complicated of all the physical sciences, and that in which it is necessary to spread our observations over the greatest extent of territory, and the greatest variety of local and geographical position. It is only by accumulating data from the most distant quarters, and by comparing the affections of the atmosphere at the same instant at different points, and at the same point at different moments, that it is possible to arrive at distinct and useful conclusions. Hence arises the necessity of procuring regular series of observations made on a uniform system, and comparable with themselves and with each other, by observers at different stations, and of multiplying the points of observation as much as possible over the interior surface of continents—along sea coasts—in islands—and in the open ocean.

The geographical position of this colony renders it perhaps the most interesting and important situation on the surface of the globe, for observations of this nature; first, whether we regard it either as an advantageous station for observing the commencing action of the great counter-current of the trade winds, where it first strikes the earth's surface, and, combined with the action of the heated surface of the African promontory, gives rise to that remarkable alternation of south-east and north-east winds, which forms so distinguishing a feature of our climate—or consider it, secondly, as the farthest extremity of one of the two great *lobes* of land which form the terrestial part of our globe, and as such, constituting at once a barrier to the currents and tides of two great oceans, and a limit to their climates—or, lastly, as a great nautical station, and one not devoid of difficulty and danger, in which every consideration of practical interest combines to stimulate the curiosity of the theorist, and give importance to the results of his inquiries.

As these pages may fall into the hands of many who have been little in the habit of observing systematically, or who may not be in possession of instruments of the nicest construction, attention to the following instructions is recommended as the means of rendering their observations most available for useful purposes, and comparable with each other, and with those intended to be referred to as standards.

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I.—GENERAL RECOMMENDATIONS AND PRECAUTIONS.

1. The continuity of observations ought to be interrupted as little as possible by changes in the adjustments of instruments—in their places—exposure—mode of fixing—or of reading off and registering them. Whenever any alteration in these or any other particulars takes place, especially such as are likely to affect the zero points, or otherwise to influence the mean results, it should be noticed in the register.

2. So far as possible, registers should be complete—but if by unavoidable circumstances of absence, or from other causes, blanks occur, no attempt to fill them up by general recollection, or by the apparent course of the numbers before and after, should ever be made.

3. The observations should, if possible, all be made by one person—but as this may often be impracticable, the principal observer should take care to instruct one or more of his family how to do it, and should satisfy himself by many trials that they observe alike.

4. The entries in the register should be made at the time of observation, and the numbers entered should be those actually read off on the respective scales of each instrument, on no account applying to them previous to entry any sort of correction, as for instance for zero, for temperature, capillarity, &c. All these and the like corrections, being matter of calculation and reasoning from other observations, are to be reserved till the final discussion of the series, and for separate determination and statement.

5. If copies be taken of the registers, they should be carefully compared with the originals by two persons, one reading aloud from the original and the other attending to the copy, and then exchanging parts, a process always advisable wherever great masses of figures are required to be correctly copied.

6. A copy so verified, or the original, (the latter being preferred) should be transmitted regularly (if possible *monthly* from places within the limits of the colony) to the secretary of the South African Literary and Philosophical Society, at Cape Town, which institution on its part will take care that such documents shall not merely be treasured as a dead letter in its archives, but shall be rendered available towards the improvement of meteorological knowledge, to the full extent of their actual scientific value.

7. The register of every instrument should be kept in parts of its own scale, as read off, no reduction of foreign measures or degrees to British being made—but it should of course be stated what scale is used in each instrument.

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II.—OF THE TIMES OF OBSERVATION AND REGISTRY.

Meteorological observations should be made and registered daily, at stated and regular hours. In fixing on these, some sacrifice of system must of necessity be made to the convenience and habits of the observer. The best hours in a scientific point of view would be those of sunrise, noon, sunset, and midnight, and these are the hours for which the registers are kept at the Royal Observatory. But these are not the hours adapted to general habits, and since the midnight observation is likely to be pretty generally neglected elsewhere than in an astronomical observatory, the following hours, for a division of the day into three parts, are proposed for what may be deemed the morning, afternoon, and evening observations, viz.:

Morning.....	8 A. M.
Afternoon.....	2 P. M.
Evening.....	8 P. M.

If, however, the habits or engagements of any one should not allow him to conform to these hours, rather than not observe he may select his own, specifying only what they are at the head of every page of his register, and adhering steadily to them in practice, only observing to make the extreme observations of each day equidistant from the middle one.

At the same time it will be borne in mind, that in what concerns the great meteorological questions on which the most interesting features of the subject depend, the night is quite as important as the day, and has hitherto been far too much neglected. To any one, therefore, who may feel disposed to enter more zealously into the subject, and will not consider some personal inconvenience ill undergone for the sake of affording data of a peculiarly valuable description, this committee would most earnestly recommend the adoption in preference to all others, of the quaternary division of the 24 hours as followed at the Royal Observatory above alluded to. And they leave it to the consideration of the council, whether the keeping and transmission of registers on this principle might not advantageously be distinguished by some honorary reward, as that of a medal for instance, should the funds of the institution admit of it.

With a view, however, to the better determining the laws of the diurnal changes taking place in the atmosphere, and to the obtaining a knowledge of the correspondence of its movements and affections over great regions of the earth's surface, or even over the whole globe, the committee have resolved to recommend, that four days in each year should henceforth be especially set apart by meteorologists in every part of the world, and devoted to a most scrupulous and accurate registry of the state of the barometer and thermometer; the direction and force of the wind; the quantity, character, and distribution of clouds: and every other particular of weather, throughout the whole twenty-four hours of those days, and the adjoining six hours of the days preceding and following.* The days they have been induced to fix on and recommend for these observations are, the 21st of March, the 21st of June, the 21st of September, and the 21st December, being those, or immediately adjoining to those of the equinoxes and solstices, in which the solar influence is either stationary or in a state of most rapid variation. ***But should any one of those 21st days fall on Sunday, then it will be understood that the observations are to be deferred till the next day, the 22nd.*** The observation at each station should commence at 6 o'clock A. M. of the appointed days, and terminate at 6 o'clock P. M. of the days following, according to the usual reckoning of time at the place. During this interval, the barometer and thermometer should be read off and registered hourly, or at all events, at intervals not more than two hours asunder, and the precise hour ***and minute*** of each reading should be especially noted.

For obvious reasons, however, the commencement of every hour should, if practicable, be chosen, and every such series of observations should be accompanied by a notice of the means used to obtain the time, and when practicable, by some observation of an astronomical nature, by which the time can be independently ascertained within a minute or two.† As there is scarcely any class of observations by which meteorology can be more extensively and essentially promoted, it is hoped that only at every section of importance in this colony but over the whole world, and on board ships in every part of the ocean, individuals will be found to co-operate in this inquiry. Every communication of such observations addressed by channels as secure and as little expensive as possible to the secretary of this institution, will be considered as highly valuable.

[Observations on the prescribed days have been made at the Royal Society in London, the Albany Institute, and by John S. McCord, Esq., of Montreal; those for Albany are published in the Albany Daily Advertiser.]

* This is necessary by reason of the want of coincidence of *the day* in different parts of the globe arising from difference of longitude. In order to obtain a complete correspondence of observation for twenty-four successive hours over the whole globe, it must be taken into account that opposite longitudes differ twelve hours in their reckoning of time. By the arrangement in the text the whole of the *astronomical day* (from noon to noon) is embraced in each series, and no observer is required to watch two nights in succession.

† For example, the first appearances and last disappearances of the sun's upper and lower border, above and below the sea horizon, if at sea or on the coast—or, on land the exact length of the shadow of a vertical object of determinate length on a horizontal level, at a precise moment of time (not too near noon), &c.

III.—OF METEOROLOGICAL INSTRUMENTS, AND FIRST OF THE BAROMETER AND ITS ATTACHED THERMOMETER.

The barometer is the most important of all meteorological instruments. Its office is to measure the actual pressure of the atmosphere on a given horizontal surface at the time and place of observation. Its fluctuations are observed to have considerable relation to changes in the weather, and especially of the wind. Hence its use is a weather-glass.

A barometer should be examined, before setting it up, for air-bubbles in the tube, and for the existence of air above the mercury in the upper part of the tube. This is done by gently inclining the instrument either way from the horizontal position, a little up and down; when air-bubbles, if large, will be seen to run to and fro, and must be evacuated by inverting the instrument and by gentle blows on it with the hand, driving them up into the cistern. If this cannot be done, the instrument is useless.—If air exists to an objectionable amount *above* the quicksilver, it will not tap *sharp* against the upper end of the tube when the barometer is quickly inclined from a vertical position so as to make the mercury rise above its level, nearly to the top, and then gently *jerked* lengthways and backwards. If the blow is puffy and dead, or is not heard at all, the amount of air must be considerable, and may be expelled by inversion.

In fixing the barometer, choose a good light near a window, but not exposed to sunshine, in a retired apartment, little liable to sudden changes of temperature or to drafts of wind. Adjust the tube to a vertical position by a plumb line, and fix it so as never to shift from that position. Before reading off, give a few taps on the instrument, enough to make the upper end of the column of quicksilver *shake* visibly, as the mercury is apt to adhere to the glass and give erroneous readings. In reading, bring the index always opposite to one part. The correct part to choose in the the summit of the convexity of the mercury, to which the index should be made a tangent, but if this be difficult to hit, either from the construction of the index or the want of a proper fall of light, the line of junction of the mercury and glass may be taken. In that case the tapping should never be omitted. Whichever mode of reading is once adopted should be stated, and always adhered to. A piece of white paper placed behind the upper part of the tube will generally enable any one to read off by the convexity of the quicksilver. In placing the index notice whether it appears to shift a little up and down as the eye is raised or depressed. This is called parallax, and is a source of uncertainty to be avoided by placing the eye in reading always on the *exact level* of the top of the mercurial column.

Barometric observations require corrections of three kinds, and to render them available and comparable with others, it is necessary that their amount should be ascertained and distinctly stated. The first is called the zero correction. It includes several subordinate corrections arising from different sources, such as that originating in a faulty placing of the scale of inches, that due to the capillary depression of the mercury in the glass tube, and the constant part (which at a fixed station is nearly the whole) of the depression arising from the presence of air or vapour in the upper part of the tube.

To determine the zero correction, the barometer must be compared with a standard instrument, such as that at the Royal Observatory for instance, or some other which has been compared with it, or with some standard of equal authority. Such comparison ought never to be omitted before forwarding the barometer to its place of destination, nor should any opportunity be neglected of comparing it, when fixed in its place, with a good portable barometer.—In making such comparisons, all that is necessary is to record the readings of both the instruments, after at least an hour's quiet exposure, side by side, that they may have the same temperature. If compared by two observers, each should read off his own barometer in his usual manner, and each should take a mean of several readings, then each should verify the other's result. By this means the zero of one standard may be transported over all the world, and that of others compared with it ascertained.

The amount of the zero correction is often very large, as two or three-tenths of an inch, but its influence on the mean results of recorded observations, falls wholly on the determination of the heights of the station of observation above the mean level of the sea, and affects little, if at all, any conclusions of a meteorological nature which may be deduced from them. Hence, if proper care be taken to preserve a barometer, once set up, immoveable, a long and regular series of observations with it has a value independent of any knowledge of this element, and it is fortunate that this is the case, as the zero correction is one extremely difficult to determine exactly *a priori*.

In transporting a *compared* barometer to its place of destination, great care is necessary. It should always be carried *upright*, or considerably inclined, and *inverted*, and over all rough roads should be carried in the hand to break the shocks to which it would otherwise be exposed. If strapped horizontally under the roof of a colonial wagon, or tied upright against the wood-work, with its head resting on the floor, there is not a chance of its escaping destruction. Strapped obliquely across the shoulder of a horseman, however, it travels securely and well, and with common care in this mode of transport, its zero runs no risk of change.

The next correction, and the most important of all, is that due to the temperature of the mercury in the barometer tube at the time of observation.—To obtain this, every barometer requires to have attached to, or fixed very near it, a thermometer, called the attached thermometer, which must be read and registered at each observation of barometer. It is preferable in practice to read off this thermometer *first*, to avoid the error arising from breathing on, or standing long near it, while reading the barometer itself. The zero of this thermometer should be ascertained by comparison with a standard at the temperature of about 60° Fahr.

The third correction applicable to barometric observations arises from change of level of the mercurial surface in the cistern, owing to the transfer of a portion of its contents to or from the tube. In barometers with small cisterns, and where the lower level cannot be adjusted at each observation, its amount may be large, and its effect being always to make the apparent fluctuation less than the real, *in a fixed proportion*, it ought, if possible, to be ascertained. The data necessary to be known are—first, the internal and external diameters of the tube—secondly, that of the cistern containing the mercury, at the surface, where the tube plunges into it. These particulars, as they must be known to the maker, ought to be inquired of him, and indeed ought to be engraved conspicuously on some part of the instrument.

Although all these corrections are necessary for the strict *reduction* of registered observations, they ought not to be applied to individual observations, previous to registry. It is sufficient to know them. Their effect is in most cases easily and safely applicable to mean results, and to the conclusions therefrom deduced, and a world of troublesome and often mistaken calculations may be saved by so applying them.

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OF THE EXTERNAL THERMOMETER.

The external thermometer should have a scale on which whole degrees are read off, and divisions large enough to admit of estimating tenths, or at least quarters of degrees, by the eye. It should be compared with a standard, and the difference stated, at one or more temperatures (the wider asunder the better) within the range of the climate in which it is to be used. In fixing it, choose a perfectly shaded but otherwise free exposure, and one where no *reflected* sunbeams from water, buildings, rocks, or dry soil, can reach it: and easily accessible for reading. There fix it firmly and upright. In reading it, avoid touching, breathing on, or in any way warming it, by near approach of the person. The quicker the reading is done the better.

Although read off at stated times, notice should be taken of all sudden and remarkable changes of temperature as indicated by the external thermometer, whenever they occur. In the neighborhood of the cape, and in many other parts of the continent, hot winds frequently set in with great suddenness, often in the night, and singular alterations of hot and cold temperature occur, disturbing the regular laws of the diurnal fluctuation, and connected, doubtless, with many interesting meteorological phenomena peculiar to the climate of South Africa.

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OF THE MAXIMUM AND MINIMUM, OR SELF-REGISTERING THERMOMETER.

This should be placed horizontally in some place out of doors, shaded from direct radiation and rain, and otherwise freely exposed to air, and so fastened as to allow of one end being detached from the fastening and lifted up, so as to let the indexes within the boxes slide down to the ends of the fluid columns, a more convenient mode, when the steel index is free enough to allow it, than the use of a magnet.

Both the thermometers should be read off as early as possible every morning, and the indexes readjusted. But as double maxima frequently, and occasionally double minima occur, in consequence of sudden changes of temperature, it is recommended occasionally to inspect both of them, with a view to ascertain whether the motion of either the mercury or spirit has been reversed in an unusual manner, and such double maxima or minima, when remarkable, should be recorded as "supernumerary," with their dates and leading features.

The self-registering thermometer is extremely apt to get out of order, by the indexes becoming entangled in the column of fluid. In travelling they should not for a moment be carried with the mercury bulb downward—if this should happen, they are *sure* to arrive in a state unfit for use. To correct them is tedious, and always hazards fracture. With great care, however, it may be done, as follows:

1st. The spirit thermometer. By many jerks force the index down to the junction of the bulb and tube; then by cautiously heating and cooling alternately the bulb, the tube, or the air vessel at the top, as the case may require, the disunited parts of the spirit may be *distilled* from place to place, till the whole is collected in one column in union with the spirit in the bulb.

2d. The mercurial thermometer. When the steel index gets immersed in the mercury it cannot be moved by a magnet, and lets the mercury pass by its side. First cool the bulb (by evaporation of ether, if necessary) till the mercury is either fairly drawn down below the index, or a separation takes place in the column, leaving the index with mercury above it. Endeavor then by tapping, warming the tube, or by the magnet, to loosen the index ever so little, then apply heat to the bulb, and drive up the index with its superabundant mercury quite into the air vessel. This requires many trials and much patience. When there, hold the instrument bulb downwards, and suspend the index by a magnet at the top, allowing any globule of mercury to drop into the origin of the tube below, then heat the bulb cautiously over a very small clear flame of an oil lamp till the mercury rises to the very top of the tube and fairly unites with the globule there awaiting it. Let the bulb cool and the mercury will sink in one united column; if not, heat it again. When this is accomplished, the index may be set loose, by withdrawing the magnet, and restored to its proper position in the tube.

A self-registering thermometer may be advantageously left (properly secured) for a whole, or parts of a year, on elevated summits or other remarkable points, to ascertain their maxima and minima of temperature during absence. In such cases, take care to defend them from discovery, or accident from wild animals, birds, snakes, &c. In taking it up for reading off, observe not to derange the indexes, and do not leave it without seeing that the indexes are in contact, and the temperature that of the air at the moment.

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OF THERMOMETERS BURIED IN THE EARTH.

Thermometers buried at different depths, for the purpose of examining the monthly changes of temperature of the soil, should have their balls and lower part of the scale well wrapped up in woollen cloth or pounded charcoal, and should be placed in strong earthen vessels, which may be entirely withdrawn from the ground, so as to allow of inspecting and reading off the scale without exposing the balls to any possibility of changing their temperatures while under examination. The vessels should be fitted with covers, to defend the scale from injuring in burying and digging up.

A pipe of earthenware, (composed of separate pieces,) or one of wood, may be sunk 10 or 15 feet below the surface, into dry earth, and a thermometer defended as above, lowered *by a chain*. The pipe being then obstructed at every two feet, by some stuffing readily hooked up, the thermometer may be easily examined, and a register of its indications kept with very little trouble. In like manner the temperature of wells may be registered.

To be continued.

[The following lines were hastily written, by a young lady of a neighboring city, to two little girls of her acquaintance. In publishing them, we shall doubtless, please our readers, though we fear we may offend the fair author, who certainly never dreamed that the eye of any but near and dear friends would rest upon her]

IMPROMPTU.

I love ye very, very much,
My little cousins fair,
I love ye more than words can tell,
So sweet I think you are!
Be very still and quiet now,
My rose-buds, both of you,
And if you listen, I will tell
You what I love to do.

I love to tell some tender tale,
Eugenia, dear, to you,
To touch your gentle heart, till tears
Are in your eyes of blue.
And then to turn to Josephine,
Whose little joyous face,
Is ever ready with a smile,
All tears away to chase.

I love to hear the merry tones
Of each young bird-like voice,
That blithesome carrolling might make
The saddest heart rejoice.
I love to mark the bounding step,
So light and free from care,
To follow those unquiet feet—
What restless things ye are!

I love to watch the changing touch,
That, as he swiftly passes,
The hand of time leaves on your forms,
My little smiling lasses.
To note a deep'ning shade of thought,
On 'Genie's forehead fair,
A dark'ning tint upon the curls
Of Josephine's bright hair.

To see Eugenia's placid brow,
From day to day expand,
And mark the fingers lengthening
Of Josie's tiny hand.
To see each little sylph-like form,
Grow taller, and to trace
The gradual stamp of intellect,
Upon each little face.

And then I love to fancy, what
You both some day may be,
When you are *grown up ladies*, just
Like your mamma, and me.
You must be very good and wise,
And very learned too,
You must be kind and amiable,
And gentle, both of you.

'Genie, forget not so to school
Each action and each thought,
That your young sister may from you,
Be truth and virtue taught.
And Josie, if to her soft voice,
A list'ning ear you lend,
She'll be your shield from every harm,
And prove your truest friend.

Now, Josie, kiss your sister, dear,
And say, you trust she'll guide,
Your feet through this world's path, beset
With thorns on every side.
And 'Genie wind your arm about
That little fairy's waist,
And tell her that her confidence
Shall never be misplaced.

Dear Children! to mine eye you seem
Two fresh and fair young flowers,
Whose beauty, strength and life increase
With the advancing hours.
And 'Genie is the lovely rose,
That fosters, lest it fade,
The fragile, sweet young violet
That grows beneath its shade.

A SERIES OF LECTURES ON AMERICAN LITERATURE.

DELIVERED BY REQUEST BEFORE THE YOUNG MEN'S ASSOCIATION, IN THE CITY OF ALBANY, BY S. DE WITT BLOODGOOD.

LECTURE IV.—*Concluded.*

Another botanist of this period was Dr. John Clayton, of Virginia. He too corresponded with all the eminent naturalists of Europe, and added to the catalogues of American plants by his own personal examination of the products of Virginia. His Flora Virginica went through three editions in Europe, being brought out at Leyden under the care of Gronovius. It was considered a standard work. He left behind him two volumes of MS. and a valuable Hortus siccus, which, together with the records of a county, were destroyed during the American revolution, by an incendiary torch, applied to the public building in which they were lodged for security. His communications on tobacco and the medicinal plants of Virginia are preserved in the Philosophical Transactions. A genus of plants in the 5th order of Linnæus bears the name of Claytonia.

Another resident of Virginia distinguished himself at this time. Dr. John Mitchell was a very philosophic person, an acute observer and a learned man. He wrote an interesting discussion of the causes of the different colors of the inhabitants of different climates. He maintained that the African race could not well exist without possessing their characteristic color. This was an esteemed production. It was sent to Collinson, the English botanist, and was offered for a prize proposed by the academy of Bordeaux. It is to be found in the 43d volume of the Philosophical Transactions. He also wrote upon the force of electrical cohesion, and on the preparations and uses of potash. Besides several other treatises and a map of North America, he prepared a work on botany, containing descriptions of many new genera of plants. We find that he was honored by having a genus of plants called after him,—Mitchella—one of a social character, according to Humboldt, and a species of which extends from the 28th tothe 69th degree of north latitude.

Long, long after the names of more pretending individuals shall be lost to memory, the round leaf, and the little scarlet berry of the Mitchella repens, shall call to mind the unobtrusive virtues of this excellent man.

It was also about this time that several American histories made their appearance. Robert Beverly wrote a history of Virginia in the beginning of the century; but at a later period, and after his death, another edition made its appearance in London, ornamented with engravings by Gribelin, an artist of some reputation. The history, however, is pronounced too concise, and quite unsatisfactory.

It was followed some years afterwards by another, from the pen of President Stith, of William and Mary College. In Dr. Miller's Retrospect, Stith is said to be followed by Beverly, but the reverse is the fact. The latter died in 1716. Stith lived until 1750, and his work appeared in 1747, many years after that of Beverly. The mistake doubtless arose from the circumstance that President Stith's work did not come down to so late a period as that of his predecessor. Though learned and accurate, it is "inelegant and uninteresting."

In 1756, Chief Justice Smith published his History of New-York, and this, though prepared by him in early life, is a valuable and important work. It is brought down to 1732. A continuation from 1732 to 1762, was written by himself, and was published by the New-York Historical Society, as a part of their transactions.

In 1764, the History of Massachusetts, in two volumes, written by Gov. Hutchinson, appeared. It is a very respectable work, and is much consulted by all who study the early progress of New-England. A third vol. came out in England in 1828, prepared from MSS. left behind him, and then for the first time published, by his grandson, an English clergyman. The affair of the Hutchinson letters, in which Dr. Franklin acted so important a part, belongs to the political history of the country.

In 1765, an account of New-Jersey was published by Samuel Smith, which has been styled a faithful compilation. It is believed that a good history of this province is still a desideratum, and it is certain that its struggles for liberty against the oppressive conduct of its colonial rulers, have never yet been fully appreciated by the American people. The other American historians belong to a later period.

American literature was now endangered by the new relations growing up between the colonies and the crown. The great men of the country began to be absorbed in questions of a political bearing. A class of extraordinary characters, who might have taken any rank in letters, chose to place themselves under arms. Those whose intellect now and then embodied itself in essays of a literary or scientific nature, began to speculate upon the objects of human existence; the reciprocity between ruler and subject; the sacred and unalienable rights of man. Not many poems, not many histories, not any fictions, belong to this troubled time. The Hancocks and Quincys, the Adams, the Livingstons, the Lees, Dickinsons and Hopkinsons, an illustrious band, leaned upon literature as a staff, with which to proceed safely through their political journey, to the promised land. Their knowledge of books supplied them with illustrations; their classical taste gave keenness to their invectives; their poetical powers feathered the barbs which they aimed at the foes of liberty.

The addresses, speeches, pamphlets and books caused by the American controversy are almost innumerable, and indicate an excited state of feeling, which nothing but war could have terminated.

The seats of learning that fell into the hands of the enemy, were nearly ruined. Princeton to this hour retains the traces of the Hessians. The MSS. lost and destroyed at Cambridge and New-Haven, and the breaking up of Columbia College, have already been mentioned.

For seven years the arts and sciences had no certain shelter, or acknowledged home, and yet they who with trumpet and drum drove them from their wonted retreats, gravely ask America for the evidences of their existence, and the proofs of their influence!

But while the battle was raging, their voices *were sometimes* heard. The muse of poetry, though agitated and restless, and driven from her haunts where she had tuned her voice, was not all silent. She bade the sons of freedom "wake to glory."

The writings of Trumbull, Freneau, Hopkinson and Humphrey, were intended to have an effect

upon public opinion, and the effect was produced The author of McFingal did his country service. Trumbull was a native of Connecticut, and discovered in youth an uncommon aptitude for learning. His mother was a very superior woman, and *devoted* herself to the cultivation of his mind. With her approbation he acquired the rudiments of the Latin language, merely by watching the method adopted by his father in teaching a student under his care Indeed, before the attempt was discovered, he had actually outstripped his companion, who was more than twice his age. When but seven years of age he was fully prepared to enter college. This precocity of his youth, did not fall off into dullness in after life. It has been much debated whether the youth of genius, discovers itself decidedly in its first efforts.

While such as Boccace, Lopez de Vega, Michael Angelo, Handel, Newton, Ferguson and Opie have in their maturity fulfilled the promise of their youth, Boileau, Dryden, Swift, Gibbon, Sheridan were in early life confessedly dull and unpromising.

The first studies of Trumbull were the Latin and Greek Classics, and the Spectator, and Watts' Lyric Poems, was the first poetry he ever read. Afterwards he explored the village of his residence for its hidden treasures, and he was made happy in the possession of Milton, Dryden and Pope. He entered college in 1763, when he was but thirteen years of age, received his degree, and remained there for three years afterwards, in order to pursue more general studies. Those chiefly in favor at Yale College were the opposite of belles lettres. The severer sciences claimed almost the entire favor of the students. Trumbull and his friend, Mr. Dwight, afterwards the celebrated Dr. Dwight, were led by a similarity of taste, to form a friendship for each other. Inspired by a taste for the classics, these young men attempted to change the feeling of admiration for the mathematics so prevalent in the institution. Dwight's essays and Trumbull's wit were equally influential. Their companions began to appreciate the necessity of classical studies. "A change came o'er the spirit of their dream."

In 1771, these young friends were chosen tutors. In 1772 the first part of the Progress of Dullness appeared, in 1773, it was concluded. It had a great sale. The object of Mr. Trumbull, was to ridicule the errors then tolerated in the modes of education. Mr. Dwight engaged in the composition of his poem, called the Conquest of Canaan, in which he had the advice of his friend. An anecdote, characteristic of both, is preserved, in relation to this poem. In one part there was quite an assemblage of thunder-storms. It was sent to Mr. Trumbull for perusal, and when he returned it, he requested the author, when he forwarded him the remainder, not to forget providing him with a lightning-rod!

Dr. Dwight, whose later works have an extensive reputation, in the *old* world as well as the new, was once noticed in a British Review, with a sneer, truly Sardonic, as the poet "whose baptismal name was Timothy."

On leaving college, Trumbull entered the law office of John Adams, afterwards president of the United States. When the revolution commenced, he became an active political writer.

In 1775, he wrote the first part of McFingal, and it was immediately published at Philadelphia, where congress was then in session. It had great popularity, and extensive influence. The second part did not appear until 1782, and there being no copyright law, he lost the advantages which would otherwise have attended its publication. This poem was in many particulars an imitation of Hudibras. It was intended to amuse the mass of the people. Its subject and its simple plot belonged to ordinary life, and the genius of the author seized upon the chief absurdities of those who were indisposed to become independent.

It served the cause of the whigs, as much as some of their regiments, made the popular side one of humor and merriment, and turned the laugh upon the friends of royalty. The story is told in four cantos. The hero is a Scot, gifted with second-sight, an orator at town meetings, and an untiring disputant. In the course of events he is tarred and feathered. He then returns home, whither a mob follow him, break into his house, and frighten him away to Boston.

As a specimen we quote a few lines from the address of McFingal, after he has fallen into the hands of the mob:

"As men in jail without main prize,
View every thing with other eyes,
And all goes wrong in church and state
Seen through perspective of the grate,
So now McFingal's second-sight,
Beheld all things in gloomier light,
His visual nerve well purg'd with tar,
Saw all the coming scenes of war.
As his prophetic soul grew stronger,
He found he could hold in no longer;
First from the pole as fierce he shook,
His wig from pitchy durance broke,
His mouth unglued, his feathers flutter'd,
His tarr'd skirts crack'd, and thus he utter'd:
Ah, Mr. Constable, ——— in vain,
We strive 'gainst wind, and tide, and rain!
Behold my doom! this feathery omen,
Portends what dismal times are coming.
Now future scenes before my eyes,
And second-sighted forms arise.
I hear a voice that calls away,
And cries—the whigs will win the day.
My beckoning genius gives command
And bids me fly the fatal land,
Where changing name and constitution,
Rebellion turns to revolution,
While loyalty, oppressed, in tears,
Stands trembling for its neck and ears."

Trumbull's muse *could*, however, be deeply tragic. In a poem called the Destruction of Babylyon, there are some very fine lines. We select a few at hazard:

"For there no more shall gay assemblies meet,
Crowd the rich mart, or throng the spacious street.
No more the bridegroom's cheerful voice shall call
The viol, sprightly in the sounding hall;
No more the lamp shall yield her friendly light,
Gild thy lone roofs and sparkle through the night.

Each morn shall view thy desolated ground,
With falling domes and shatter'd spires around,
And clad in weeds in wild confusion thrown,
The marble trophy and the sculptur'd stone.
No future age thy glories shall recall,
Thy turrets lift, or build the ruin'd wall.

Where the gilt palace pierced the azure skies,
The owl shall stun thee with funereal cries,
The baleful dragon thro' thy gardens rove,
And wolves usurp the consecrated grove.
No shepherd there the wandering flock shall spread,
Nor seek repose beneath the tented shed.
No stranger there with devious footsteps stray,
Where horror dark, defends the fated way.
Eternal ruin rears her standard wide,
And vengeance triumphs o'er the realm of pride."

INDIA—A POEM.

SECOND BOOK.

(Never before published.)

CXII.

May fancy pour the periods from my quill,
Like the dews from the raven wing of night,
That lightly on the summer rose distill,
As beautiful, as balmy, and as bright,
Not of the earth, but robed in holy light,
Oh, may she come to glad her votary's eyes,
Unseal celestial visions in his sight,
On pinions plumed in heavenly paradise,
As she on Zion's hill descended from the skies.

CXIII.

When I would for the Indian widow plead,
Doom'd to the accursed altar, and the fire
By Moloch kindled to avert the deed,
Water with pity's tears the sacred lyre,
Angel of mercy, oh, my strain inspire,
Then shall I to me make allies of those
Whose aid, alas, I now so much require,
Whose hearts are sensitive to human woes,
As harp strung to the touch, that every octave knows.

CXIV.

Daughters of England, oh, be yours the meed,
Yes, you will not my ardent prayer deny,
Go in your beauty, and for woman plead,
Oh! raise the star of the benignant eye,
The fairest when it shines in pity's sky.
Go, gentle maidens, and your voice attune,
To the melodious arguments that fly
On wings of music; you shall triumph soon,
And India many an age shall bless you for the boon.

CXV.

'Tis you unlock the chambers of the heart,
Where mercy thrones—you move the master springs
That stir the world, and with unrival'd art,
To sweetest concords wake the trembling strings
Of nature's harp, and spread your angel wings
On her bright errands, charter'd from on high,
The embassy of peace your presence brings,
Your mission seal'd and dated in the sky,
Your parchment be unroll'd, and shall the demons fly!

CXVI.

Already has there been too long delay,
Oh! let the glorious work be yours alone,
And think, oh, think, there passes not a day,
On which some deed of murder is not done,
To taint the atmosphere and blot the sun,
That does not see some widow mount the pile,
That does not hear some infant's dying moan;
Let it be yours the earth to undefile,
That purified again, it may in beauty smile.

CXVII.

In fair, yet in a firm array go forth,
Your armies are invincible and strong,
From Britain's isles, east, west, and south, and north,
The sacred conclave, and the senate throng,
Your prayer shall not be unassisted long.
Again another Wilberforce may rise,
Again Elijah's mantle may be flung,
Around some prophet, dropping from the skies,
To light your onward path, victorious to the prize.

CXVIII.

And may the spirit that inspired the 'plaint
That Jeremy for Judah's daughters sang,
In tears and sackcloth, and desponding faint,
Be yours, and on your lips persuasion hang.
Weep for the Indian widow's cruel wrong,
And in your tears, go kneel before the throne,
Mercies to it peculiarly belong,
The royal heart may easily be won,
Truth, justice, mercy plead—but speak, the work is done.

CXIX.

Tell him that of his fair dominions here,
One grain of sand is not unstain'd with blood,
That woman's only birthright is a tear,
And fiery death bed—men of savage mood,
Proud, fanatic, and hypocrite, and rude,
Tread on his people with an iron sway,
The ministers of ill, pretending good.
Oh, let him wash the stain, he can, he may,
And his be glory's crown, in realms of endless day.

CXX.

The work is done, the Suttee fires are quench'd,
Peace visits India, upon mercy's wings;
The demons fly, the Brahmin's cheek is blench'd,
And from the darkness ten-fold glory springs,
All animate, and all insensate things,
Awake, rejoice, for ye are cleansed from stain,
Heaven's fountain purifying waters flings,
To wash away the spots of reddest grain,
That ever land defil'd, or desecrated fane.

CXXI.

Ye slumbering insects, from the chrysalid,
Come forth on pinions of a purer gold,
Ye fire flies, be your lamps with light refed,
Ye tall flamingoes of the swampy world,
Your plumage be in richer scarlet roll'd,
Ye uncooped peacocks, in your native wood,
A brighter galaxy of stars unfold,
In fairer circles fishes fin the flood,
Ye minstrels of the sky, sing in a merrier mood.

CXXII.

Ye nightingales, that shed melodious tears,
The sweetly dropping sorrows of your song,
For the young widow, thrilling evening's ears,
Now pour your warblings mellow, clear and strong,
Cadenc'd with joy, the myrtle boughs among,
Until ye join the concert of the lark,
Upon the eyelash of the morning hung,
Glad as the dove revisiting the ark,
Singing his roundelay to charm away the dark.

CXXIII.

Illustrious man who quench'd those fires for you,
The blossoms hang more graceful on the stem
Of the superb Alpinier, in the dew,
And for your temples weave a diadem
Of blended glory. India lays her gem,
Sparkling with stars, an offering at your feet,
And richest Cashmere stuffs, your robe to hem,
The fairest of her maidens come to greet,
Your presence with a song for their deliverer meet.

CXXIV.

Ye stars, on all your temples write his name,
On all your golden monuments on high,
The imperishable records of his fame,
Bright as the sun, eternal as the sky,
O'er which the wing of time shall harmless fly,
Ocean with all thy billows sound his praise,
In sweet low murmurs, or land minstrelsy—
Ye winds, on warbling pinions join the lays,
And you, ye chiming streams, in all your flowery ways.

CXXV.

Ye demons fly—this is no place for you—
Already do you scent the morning breeze,
And see the day approaching to renew,
The light you cannot bear—go to the seas—
Hide in dark caverns—wander where you please,
You may not longer linger here to curse
A lovely land—fly—India's rank disease
Bear on your wings—the Brahmins that you nurse,
Your prophets like yourselves, malignant, dark and fierce.

CXXVI.

The dawn is kindling far on Meru's Mount,
Fairer than lights surrounding India's throne,
Pouring in brightness from the eternal fount
Of glory; where the Godhead sits alone,
Who dwelleth not in temples made with stone,
The spirit is descending like a dove,
White wing'd as erst he over Jordan shone,
The Cherubim, the ministers of love,
His kingdom to prepare, are flitting from above.

CXXVII.

A holier than the tenth Avatar comes,
Truth, mercy, justice, in his person meet,
And in himself he all perfection seems,
The power to save, the balm of healing sweet,
On his right hand omnipotence is writ,
A crown of rainbows is upon his head,
The sun, the moon, the stars, are at his feet,
And in his train, ten thousand angels led,
Sing peace on earth to man, praise to Jehovah dread.

LECTURES ON COMPARATIVE ANATOMY AND ANIMAL PHYSIOLOGY,

BY ROBERT E. GRANT, M. D., F. R. S. E., &c;

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LECTURE I—*Concluded.*

ON THE HISTORY AND PRESENT STATE OF THE SCIENCE.

Since the publication of the first elementary treatise on comparative anatomy by the venerable Blumenbach, the father of this science in Germany, and still its most zealous patron, the study has been ardently pursued by numerous distinguished German anatomists, and is cultivated with zeal and advantage in many of the universities of that country. The distinguished talents and varied learning of the late Professor Rudolphi of Berlin, the luminous views of Humboldt, Oken, Tiedemann, Treviranus, and Professor Meckel of Halle, in this department, the useful labors of Professor Carus of Dresden, Gurlt, Jeude, Neergaard, Pander, D'Alton, Albers, Gall, Fisher, Rosenthal, Nitzsch, Bremser, Temminck, Professor Fohman, Lichtenstein, Schweigger of Konigsberg, and Bojanus of Poland, and the numerous contributions of Reil, Voigt, Baer, Oppel, Rathke, Froriep, Widemann, Weber, Spix, Gade, Morren, Wagler, Olfers, Wenzel, Funke, Dr. Muller, Professor Ehrenberg, the distinguished traveller and companion of Humboldt, and many others, have continued to preserve for Germany the high rank which it has so long held in the history of this department of science. It is not, however, alone by lectures and publications that Germany has advanced the interests of comparative anatomy. The splendid museum of Berlin, formerly under the direction of Rudolphi, contains a vast and beautiful series of zootomical preparations, the rich collections of Professor Meckel are constantly increasing in extent by the indefatigable zeal of that profound anatomist, and the zootomical collections of Leyden, Bonn, Frankfort, Halle, Vienna, Dresden, Goettingen, and other parts of Germany, will extend and perpetuate an interest in the study, even beyond the exertions of its present numerous cultivators. The annual meetings of the German naturalists in different parts of the empire, and the numerous societies devoted to the advancement of these pursuits, promote the rapid diffusion of scientific discoveries, excite a generous emulation, and give a due direction to that zeal for which they are so eminently distinguished.

The poverty of the Italian states prevents them from giving that public support to the more expensive branches of physical science, which is so advantageously and judiciously bestowed by the more wealthy countries of Europe. Hence, notwithstanding the number of distinguished anatomists who have flourished in Italy, the great medical schools of Pavia, Padua, Pisa, and Bologna, present no means of studying this department of anatomy; and in the vast museum of wax anatomical preparations, the Gabinetto Physico at Florence, there are very few specimens illustrative of comparative anatomy. Italy, however, the country of Pliny, of Aldrovandus, of Redi, of Fabricius, Morgagni, Spallanzani, Fontana, Mascagni, and Scarpa, has not remained indifferent to the progress of this science in other parts of Europe, but has labored with singular success in many of its most obscure departments. We shall have frequent occasion to speak of the researches of Cavolini on the animals of the Bay of Naples. They present the most singular discoveries which have yet been made in this department of science, and though published by that profound and accurate observer nearly fifty years ago, they are only now beginning to be known to Europe. The folio anatomical works of Poli, on the Anatomy of the Testaceous Mollusca of the Two Sicilies, published at Parma, have never been surpassed for minuteness of detail and splendor of execution. The interesting and beautiful quartos of Delle Chiaje, on the Anatomy of the Invertebrate Animals of the Kingdom of Naples, the recent researches and interesting discoveries of Rusconi on the structure and development of the salamander, the proteus, and other reptiles; the valuable labors of Risso on the animals of the Mediterranean, the researches of the late Rolando on the great centres of the nervous system in the higher classes of animals, the zootomical investigations of Moreschi of Milan, Lippi, Carena, Giorna, and Malacarne, the laborious researches of Brocchi and Catullo on the fossil animals of Italy, and the systematic works on comparative anatomy by Professor Jacopi of Pavia, and Uccelli of Florence, have continued to support the long-established reputation of the Italian schools; and not a little of that zeal for zootomical pursuits, which of late years has been so generally manifested in that country, and is so advantageous to the science, is due to the public instructions, and to the unwearied, though unsupported, exertions of the late Dr. Metaxa, my learned friend and preceptor, who was appointed professor of comparative anatomy in the University of La Sapienza at Rome, in 1813, by Baron Cuvier.

All the descriptive branches of physical science require for their successful study a constant appeal to the objects described, and no department appears more dependent on such illustration than comparative anatomy. Common observation makes us all familiar with the general outward forms of animals, and a short description may convey to us a pretty accurate idea of the form of one we have never seen. But their complicated machinery lies concealed from our view, it requires patience and skill to bring it into sight, and no distinct idea can be conveyed by mere description to the inexperienced, of that complex arrangement of parts, and those minute differences of structure, on which the peculiar habits of the species often depend. A constant reference to the objects themselves is the more necessary in comparative anatomy, from the extent and variety of the animal kingdom, and the rarity of many of the objects it comprehends.

In the possession of these means of illustrating every department of this extensive study, no country in Europe can compete with France. The museums of comparative anatomy and zoology in the Garden of Plants at Paris, have been constantly augmenting for more than a century, and have long surpassed in extent and magnificence everything of the kind in existence. When Buffon was appointed director of the Garden of Plants in 1739, there were two rooms containing zoological specimens already open to public inspection, and one room containing skeletons, which was kept private. The unremitting exertions of Buffon, and his influence with the King of France, soon greatly extended the zoological collection. The quadrupeds and birds, so eloquently described by Buffon, and the fishes described by Lacepede, were preserved in that cabinet, but their arrangement was in accordance with the well-known contempt of Buffon for scientific classification.

Daubenton, the pupil of Winslow and Duverney, was appointed by Buffon, in 1745, demonstrator of anatomy, and occupied himself in making skeletons of all the animals he could procure, and in dissecting and describing their soft parts. During the directorship of Buffon, the Academy of Sciences purchased the anatomical collection of Hunaud, who had been formerly demonstrator, and presented it to the Garden of Plants, where it was joined to the collection already formed by Duverney, and augmented by Daubenton. The elaborate zootomical descriptions and plates of Daubenton, taken from the specimens of the Cabinet du Roi, and published along with the works of Buffon, formed the most valuable contribution to comparative anatomy which had hitherto appeared, and presented the subjects in their most intelligible and attractive forms.

About the middle of the last century, Vicq-d'Azyr, who had been appointed by Petit to assist him in the course of human anatomy in the Garden of Plants, eminently distinguished himself by the numerous striking illustrations he drew from comparative anatomy, and by his profound and original views. While Billarderie, who succeeded Buffon, was director of the Garden, Lebrun, one of the ministers of the King of France, introduced a professorship of zoology.

On the breaking out of the revolution in 1792, when Billarderie made his escape from France, the museum of natural history, formerly the king's gar-

den, underwent a new organization, and a distinct professorship of the anatomy of animals was introduced, which was given to the venerable Mertrud, so justly eulogized by Cuvier for his zeal in that pursuit. Saint Pierre, who had just been appointed to the directorship of the garden, induced the government, which had always seconded the efforts of the directors, to purchase for that rising establishment the menagerie of Versailles, and thus begun that collection of living animals, which has so long excited the interest and admiration of Europe. The collections of the garden were greatly increased in 1795 by the arrival of the zoological museum and menagerie of the Stadtholder, which were pillaged by the French on the taking of Holland. The great accumulation of materials rendered it necessary to subdivide the department which embraced the animal kingdom, and Lacepede was appointed to teach the zoology of vertebrate animals, a chair now so ably filled by his illustrious successor Geoffroy Saint Hilaire. Lamarck was at the same time appointed to the chair of the zoology of invertebrate animals, an appointment which he held till his death in 1830, at the advanced age of 86 years. Two assistant zoologists, Desmoulins and Dufresne, were also appointed at that early period (1793) to complete the zoological department; and the late celebrated Lateille was made assistant-naturalist in the following year.

Mertrud, who had dissected animals for many years along with Daubenton, was already too much advanced in years at the time of his appointment to the chair of comparative anatomy, to undertake the active duties of that extensive department, and by the advice of his colleagues he appointed Cuvier to lecture for him in 1795. Cuvier had already made himself favorably known to the naturalists of Paris, by his interesting papers on the anatomy of the mollusca, and by his popular lectures on natural history, delivered in the central school of the Pantheon. The appointment of Cuvier to this chair in the Garden of Plants, formed the commencement of a new and a brilliant era in the history not only of comparative anatomy, but of the study of nature; for since the period of Aristotle, no one had ever combined with the study of these departments, more distinguished talents, more varied and extensive knowledge, or more indefatigable zeal in the pursuit, and none has ever succeeded in effecting more important revolutions in physical science.

On the death of Mertrud in 1802, Cuvier was confirmed as his successor in the chair of comparative anatomy, and now directed his whole energies to the extension of the zootomical museum as the only means of rendering the instructions in this department of solid and permanent utility. In the same year Cuvier and his pupils dissected the male elephant from the Stadtholder collection, which died at Paris. They dissected another male elephant in 1804, and a female a few years after. By the unremitting exertions of Cuvier and his assistants and pupils in dissecting and preparing the animals which died in the vast menagerie, the cabinet of comparative anatomy in 1806 was already in such a state of completeness as to extent of material and scientific arrangement, as to be opened to public inspection, and it has continued open to the present time.

The direction of the menagerie was placed under the care of Frederick Cuvier in 1805, and from the facilities he thus enjoyed, he greatly aided the researches of his brother by the numerous additions he made to the osteological part of the cabinet, and by his own profound inquiries into the structure and forms of the teeth of quadrupeds. The work of Frederick Cuvier on the teeth, considered as zoological characters, has proved of great practical utility in the study both of recent and fossil quadrupeds.

The eloquence, the learning, and the genius of Cuvier, the uncommon popularity of his lectures, the rapid succession and importance of his discoveries, his indefatigable spirit of research, the originality and grandeur of his general views, and the variety and extent of his means of illustration, not only rendered the subject a favorite study in Paris, but quickly extended his fame through Europe.—The multiplicity of his avocations prevented him from undertaking thus early a systematic work on the science; but manuscript copies of his lectures taken by pupils were circulated in Paris, and even quoted in publications. In 1800 M. Dumeril, who was at the head of the anatomical department of the School of Medicine at Paris, and who had taken copious notes at several courses of Cuvier's lectures, commenced the publication of these lectures with the consent and assistance of Cuvier. Two volumes of the "Lecons d'Anatomie Comparée" were thus published by Dumeril, when his important duties at the School of Medicine, and the new investigations of Cuvier into the fossil animals of the Paris Bason, interrupted the publication of the work. At length in 1805, Dr. Duvernoy, a distinguished pupil and relative of M. Cuvier, and a zealous anatomist, was intrusted with the completion of that work which has stood unrivalled for its extent, originality, elegance, and accuracy, for nearly thirty years, notwithstanding the continued and rapid advancement of the science in every department during that long period.

So early as 1793, Geoffroy Saint-Hilaire commenced his career in the garden of plants as Professor of the Natural History of Vertebrate Animals; the duties of which he has continued to fulfil with unabated zeal, and with immense advantage to that important part of the science, for a period of forty years. Laboring on a limited portion of the animal kingdom, he has surpassed all his predecessors and contemporaries, by his profound, philosophical, and original views of the anatomy of the higher animals, and by the ingenuity and boldness of his speculations in regard to the development, and the analogies of organs and the general laws of the animal economy. He has greatly extended our acquaintance with the species of vetebrate animals, and all his zoological descriptions are marked by a precision and accuracy and philosophical spirit, which give a stability and dignity to one of the most popular and attractive of the physical sciences.

The labors of Lamarck on the invertebrate animals, continued for more than thirty years, have proved not less eminently beneficial to that obscure and difficult part of the science. He has carefully examined every portion of that immense division of the animal kingdom, and entirely reformed that part of zoology. In his volumnious writings he has entered largely into the organization of all the classes, and fully described the characters, the history, and the synonymes of the species. His general views are distinguished by an extent and minuteness of observation, and originality and boldness of conception, which have thrown a new light over this intricate part of nature, although the novelty and singularity of some of his results have retarded their general adoption.

The liberal and well-directed encouragement of the French government to one of the most expensive departments of the studies of nature, and the great subdivision of labor among its cultivators in France, enabled them to extend rapidly the boundaries of the science in every direction; and notwithstanding peculiar difficulties from their limited commercial relations, and from their long-continued interruptions to their navigation by their contests with nations commanding the sea, it is to them we owe almost every important improvement in comparative anatomy, and we are indebted to them for almost all our acquaintance with the actual and the past state of the zoology of the globe.

The vast zoological museum of Paris, which has been open to public inspection for a hundred years, and the immense collection of zootomical preparations which have been constantly employed in teaching the structure of animals, by a succession of zealous and profound anatomists, for nearly forty years, have not only spread a taste for these pursuits in France, and familiarised that country with their profoundest arcana as a branch of general education, but they afford a means of comparison, a powerful instrument of investigation to facilitate the progress of discovery, enjoyed by no other country, and which has mainly contributed to their great superiority in this department over the other nations of Europe. Almost every school in France has produced its laborers in this great field of inquiry. The labors of Cuvier, which continued unabated over a period of nearly forty years, fill more than thirty volumes, and embrace every part of the study of animated nature. His investigations into the structure of the extinct races of quadrupeds, which occupy seven quarto volumes, have altogether reformed the study of fossil zoology, and afford the most splendid illustration which has yet appeared of the utility of comparative anatomy, as applied to the investigations of the geologist. The public lectures and the numerous writings of M. Blainville on comparative anatomy have been highly beneficial to the science, and the energies of his ever active mind have been directed to almost every part of the study, from the mammalia to the infusoria. His system of comparative anatomy which, unfortunately for the science, is still uncompleted, displays an extensive and minute acquaintance with the organization of the animal kingdom, and his materials are disposed in a luminous and philosophic arrangement. Fossil ichthyology is greatly indebted to him for his valuable labors on the Ichthyolites of Monte Bolca, preserved in the Paris Museum. He has thrown a new light on the structure and economy of molluscous animals, both recent and fossil, and on the singular class of entozoa. And more recently his extensive labors on the class of zoophytes have added many improvements in that department. He is now (1833) appointed successor to Baron Cuvier, in the chair of Comp. Anat. in the Garden of Plants. The immense researches of De Serres on the structure and development of the brain and nervous system in the classes of vertebrated animals are one of the most complete and valuable contributions which have for a long time been made to the science. They form a striking confirmation of the philosophical views of Geoffroy on the unity of plan in the organization of animals, and a beautiful illustration of the utility of comparative anatomy as applied to the development of the organs of the human body.

Notwithstanding the numerous avocations of M. Dumeril, as chief of the anatomical school of Paris, professor of zoology, and keeper of the museum of natural history, his numerous detached memoirs and his separate works have illustrated many obscure parts of the structure of animals, particularly of fishes and insects. The curious and complicated structure of insects has been greatly illustrated by the profound researches of the unfortunate Savigny, by the long-continued labors of the late Latreille, by the recent splendid publication of Straus-Durckheim, and by the zealous investigations of Audouin, Edwards, and other zootomists of the French school. The structure of almost every class of animals has been the subject of separate and minute examination among the zootomists of France. The experimental inquiries of Magendie, Dutrochet, Desmoulins, and many others, have lately added considerably to our knowledge of the structure and physiology of the lower animals. Adanson, Ferussac, Desmarest, Cloquet, Flourens, Derheims, Girard, Somme, Lamouroux, Raspail, Quoy, Gaimard, Rang, and many other of their countrymen, have added greatly to the reputation of the French school by their numerous discoveries and valuable labors in comparative anatomy. Indeed, the science is now so generally cultivated in France, and owes so much of its present advancement to the zeal and learning of French anatomists, that a great portion of our time in this place will be occupied in explaining and illustrating their views and discoveries.

Since the death of the venerable Lamarck, about four years ago, at the advanced age of 86 years, M. de Blainville and M de Latreille had been appointed professors in the garden of plants. M. de Blainville was appointed to treat of the organization and history of the inarticulate classes of invertebrate animals, and M. Latreille those of the crustacea arachnoida and insects. M. Cuvier, during the summer (1831), substituted M. Flourens for himself in the course of the anatomy of the vertebrata. M. de Latreille was aided in his first course of lectures (1831) by M. Andouin. Geoffroy St.-Hilaire has taken the assistance of his son Isidore G. St.-Hilaire. The recent appointment of M. de Blainville to the chair of comparative anatomy in the Garden of Plants, vacant by the death of Baron Cuvier, will greatly contribute to preserve the celebrity of the French school of comparative anatomy, and give a strong impulse to those philosophical views which are so conspicuous in all his writings.

Although a century behind our continental neighbors in this department of science, no country in Europe ever possessed opportunities of cultivating and advancing the study of comparative anatomy equal to those so long enjoyed by Great Britain.—Her powers command the ocean, her colonies are planted in every portion of the habitable globe, and the skill and enterprise of her navigators and travellers have immensely extended the progress of geographical discovery in both hemispheres. The great savannas of the New World, and the frozen solitudes of North America, have been explored. The Arctic seas are annually navigated by fleets of

British whalers. The vast solitudes of New Holland and Van Diemen's Land have been often traversed. British armies have traversed vast regions in Asia hitherto almost unknown. The scorching sands and savage deserts of Africa have often been deliberately explored, and the icy summits of the Cordilleras, and of the Himalaya mountains, 27,000 feet above the ocean, have proved no barriers to British enterprise. Our countrymen have circumnavigated the globe times without number, have sought dangers in every part of the Atlantic and Pacific oceans, and, surrounded with mountains and fields of ice moving like tempests, in every direction through the Arctic and Antarctic seas, they have boldly struggled to approach the Poles.

The mineral treasures of the most distant countries have been collected and examined, and the floras of most regions of the globe have been carefully investigated and described. The studies of geology and mineralogy have long formed a part of the plan of education in all our British universities, and numerous societies have long existed in all parts of the kingdom devoted to the advancement of these pursuits. Immense advantage to the country has accrued from the encouragement given to these branches of natural history, by the discovery of its numerous mineral riches, by the improvement of its agriculture, and by enabling it annually to distribute over the colonies men well qualified to extend these advantages. The active exertions and published transactions of these societies have also mainly contributed to the present advanced state of geology in Europe. The study of the vegetable kingdom, one of the most interesting and important branches of physical science, commenced its career as merely subservient to Materia Medica. It has gradually risen by its utility and attractions to the rank of an independent and favorite science in all our public seminaries of learning. It has proved of great practical utility in its numerous applications to agriculture, horticulture, medicine, domestic economy, and the arts; and it is justly regarded as an essential branch in the education of all medical men.

The animal kingdom is that to which man belongs, and all the beings which like him have motion and feeling. It comprehends a greater number of known distinct kind of beings than the other two kingdoms of nature taken together. More than 150,000 of its species are known, and all these are more nearly allied to man than are the beings of the other kingdoms. They contain not only the germs, but the successive stages of the development of human organization. Their study, however, in this country, may be considered as still in its infancy. Their nature and structure and properties have been less investigated. From the utility and applications of their study being less known, it has been hitherto only admitted into some of our public institutions as a branch of natural history, combined with one or both of the other more popular departments, themselves already too great for any human mind. From the study of the animal kingdom being thus almost deprived of public support, it has been neglected by those who had most opportunities of advancing its progress at home and in the colonies.

Attempts, however, have frequently been made in this country by private individuals, to raise the study of the animal kingdom to an equal rank with that of plants and minerals, by placing it on a scientific foundation, and by pointing out its practical applications. As a branch of anatomy, the study of the animal structure is intimately connected with that of the human body. Both Monro primus and secundus, at the conclusion of their courses of human anatomy in the University of Edinburgh, gave separate lectures on the anatomy of domestic animals, and Monro tertius, at the commencement of his career, followed this example of his illustrious ancestors. The earliest separate publication on comparative anatomy in this country, was an essay on that subject, published from manuscript notes taken at the lectures of Monro primus in 1744.—The great work of Monro secundus, on the structure of fishes, published in 1785, has scarcely been equalled by anything which yet appeared in Britain in this department, and it owes much of its value to the many accurate plates with which it is illustrated, executed by the late distinguished anatomist Mr. Fyfe. The lectures of Mr. Fyfe on human anatomy, long delivered in the University of Edinburgh, were illustrated by numerous appeals to the structure of the lower animals, which he had made a particular subject of study, and his valuable Manual of Comparative Anatomy, published in 1813, was the first original work of the kind which had appeared in our language. A small part only of the lectures on comparative anatomy, by the late Dr. Harwood, has been published.

The indefatigable and successful labors of the two Hunters have elucidated many of the most intricate parts of the animal economy, and the highly interesting views of Darwin laid open many new paths of curious inquiry in the application of comparative anatomy to human phisiology. The varied and useful labors of the late distinguished Sir E. Home, whose merits have naturally been least appreciated at home where they were least understood, continued for more than thirty years; they have been a principal means of preserving a taste for the study in this country, and have mainly contributed to extend the reputation of the British school of anatomy. The study has been also indebted to the labors of Professor Macartney of Dublin, particularly for his observations on the structure of birds, and to the classical writings of Mr. Lawrence. The writings of Mr. Ellis on zoophytes, and of Dr. Leach on the articulated classes, are known to all Europe. Many interesting parts of this subject have also been illustrated by the labors of Dr. Fleming, Dr. Johnson, Sir Anthony Carlisle, Mr. Clift, Mr. Yarrell, Mr. M'Leay, and others.

Besides the original work on comparative anatomy by Mr. Fyfe, we possess, in our language, several elementary treatises, translated from the French and the German, as that of Cuvier, of Carus, and of Blumenbach. Bostock's classical work on physiology abounds with interesting zootomical details. Dr. Craigie, of Edinburgh, has recently published a separate treatise, which forms an article in the new edition of the Encyclopædia Britannica. The beautiful investigations of Sir Charles Bell on the nervous system have been chiefly conducted on the lower animals, and the interesting discoveries of Professor Buckland, as developed in his Reliquiæ Deluvianæ, have been chiefly made by the application of comparative osteology to geological inquiries.

About twenty years ago, unsuccessful attempts were made by the patrons of the University of Edinburgh to introduce the late Dr. Barclay, who had accumulated for twenty years materials for teaching this science, as professor of comparative anatomy in that great medical school, and no attempts have since been made to supply this deficiency in the great northern university. In 1816 Dr. Barclay commenced public lectures on comparative anatomy at Edinburgh, which he continued in the summer season to the end of his valuable career. In 1824 (the last year of his lectures) he entrusted me with the part of his course which related to the anatomy of the invertebrated classes of animals. Dr. Hart has given several courses of lectures on this subject in Dublin, Dr. Reilly in Bristol, and Dr. Scouler in the Andersonian University of Glasgow. Annual courses of a few lectures on some select parts of comparative anatomy are given in the theatre of the Royal College of Surgeons of London to the members of that body, and these courses have successively exercised the talents of Mr. Abernethy, Sir E. Home, Sir A. Cooper, Mr. Lawrence, Sir A. Carlisle, Sir C. Bell, Mr. Green, and other eminent anatomists. Mr. Thomas Bell has also given separate courses of lectures on comparative anatomy at Guy's Hospital, and Mr. South has given similar courses at St. Thomas's Hospital.

Numerous zootomical collections exist in this country, although they are scarcely ever employed in teaching the subject. The Barclayan Museum, now belonging to the Royal College of Surgeons of Edinburgh, is the richest in Scotland, and an Osteological Museum, containing many valuable skeletons, as of the dugong, the walrus, the fossil elk, the hippopotamus, the camel, has been recently formed in the University of Edinburgh by the exertions of Professor Jameson. The Hunterian Museum of Glasgow contains many interesting zootomical preparations, and the collection of the Andersonian Institution is increasing by the labors of Dr. Scouler. The zootomical part of the Museum of the Royal Institution of Liverpool has been greatly indebted to Professor Trail, of Edinburgh, and the splendid zoological Museum of Manchester, which fills seven apartments, contains several interesting specimens of comparative osteology, both recent and fossil. The zootomical part of the Museum of Dr. Kidd, at Oxford, has been much extended by the labors of Dr. Ogle, and several zootomical preparations are preserved in the Ashmolean Museum of the same city, which contains also the collection of fossil animals formed by Dr. Buckland. The Museum of the College of Surgeons of Dublin, though deficient in osteological specimens, contains many dissected zootomical preparations of great beauty and value preserved in spirit. The collection of Dr. Macartney in Trinity College, Dublin, is small but select, and that of the Park-street Medical School is extending by the labors of Dr. Hart.—The Museum of the Dublin Royal Society contains few zootomical preparations, but possesses the most complete skeleton of the great fossil elk which has been hitherto found.

In this metropolis there are many interesting private zootomical collections, besides those attached to the hospitals and medical schools, as that of Mr. Langstaff, the Museum of M. De La Fons, that of Mr. Thomas Bell, and of Mr. Yarrell. The collection in this University has been formed expressly for teaching this department, and owes much to the skill and taste of the pupils. There exists also a rich collection of specimens in Guy's Hospital, which is rapidly extending by the judicious liberality of the directors of that vast establishment. That of St. Thomas's Hospital contains many beautiful preparations, made by Sir A. Cooper, and was formerly used in the lectures of Mr. South on Comparative Anatomy. A small, but very select collection, exists also in King's College, which is rapidly extending, and the Zoological Society of London has commenced the formation of a Museum of Comparative Anatomy and Zoology, which, with the extraordinary opportunities they enjoy, may be expected ultimately to equal any in Europe. The most extensive and useful collection of zootomical specimens in the British dominions is that preserved in the Museum of the College of Surgeons of London, a considerable nucleus of which was formed by the late Mr. John Hunter. This collection, however, like most of those I have mentioned, is, unfortunately for these studies in this country, very little employed in communicating instruction either in comparative anatomy or animal physiology.

[From Chambers' Edinburgh Journal.]

RIDING OFF.

This is a phrase well known among the members of the House of Commons, who use it to describe the circum tance of an individual or party of individuals taking advantage of some flaw or weak point in propositions to which they are not very well disposed, in order, with a good grace, to abandon all consideration of them. In that house a strongly practical air must be thrown around every thing for which the least attention is expected; let the proposer give but the least hint at a principle which cannot in the mean time be carried into effect, and nearly the whole house will be found to *ride off* upon it. The phrase is highly picturesque, and we never hear it without conceiving of that grave assembly as of a dignified cavalcade proceeding in ordinary circumstances quietly along, till, as it happens, some one is pleased to say that there ought to be pleasure-grounds in connection with every large town in the empire, when suddenly bridles are heard to ring and steeds to champ, and, in the next moment, all except perhaps two or three are seen scampering off at various angles, as if pestilence or something worse lay in the straight line. Perhaps there is always so much more than enough of what is practicable under the attention of parliament, that it is too much to expect it to put off time with what is not likely to come to pass for a dozen years; but, whatever be the occasion, there is the phrase. It is not our duty to praise or blame those overtasked gentlemen: what we have to do is to give a few general remarks upon *riding off*, as practised every day in ordinary discourse.

Yes—riding off is by no means confined to the house in which the phrase originated. We have been plagued with riding off, ever since we could speak or listen. It is a favorite expedient among high and low, young and old, rich and poor. Children ride off before they can well walk. "John, you were a very naughty boy to overturn the lamp in nurse's lap, by which you spoiled her new red gown." So says mamma to a little fellow who has hitherto stood mute under a sense of guilt. "Mamma, it was nurse's brown gown, and not her red one," instantly exclaims John, in the manner of one who imagines himself unjustly accused, and who has facts to appeal to for his innocence. "Betty,

you remained out too late last night. I gave you leave till nine, and I am informed you did not come home till ten. Since you thus take undue advantage of my kindness, I will not be so ready to grant you leave again." So says mistress to servant.—"Well, I declare, ma'am, you are quite wrong. It wanted full five minutes of ten when I came in.—If any one said it was ten, he told ——" and so forth. And so Betty rides off upon the speciality of the five minutes. No matter how small a fraction of exculpation, or how flimsy a shadow of excuse, can be presented against the charge brought forward, it always helps a little to stagger the accuser, and to make a show of defence in the eyes of a third party. The principle is fully acknowledged, indeed, even in the law, for, if a rogue can prove a misspelt word in his indictment, he may be as clearly guilty as possible, and yet, upon the strength of that counter trespass upon Walker's Sheridan, he will get off.

There is much of both unphilosophical and immoral equestrianship of this kind. If you lay before some people arguments which they are unable to comprehend, they will perhaps listen to a certain extent through politeness, without taking in or endeavoring to take in a single idea, till you stumble upon something slightly at variance with generally received notions; when, all at once, shaking up themselves and their steeds out of a profound reverie, off they gallop. Such slips are very apt to occur in oral discourse and argument; and it really seems very hard that, after you have preached sound and irrefragable sense for half an hour, the error of a moment should deprive you of all advantage from it, and drown the whole discussion, as it often does, in a gabble of ridicule and nonsense. The truth of almost every thing lies in a medium. In your views upon any particular subject, you may keep by that medium with the greatest equability, and thus, in the estimation of every unprejudiced person, manifest the justest and most perfect good sense. But nearly every thing has also its vicious extremes and its abuses, and how easy is it to mar the effect of all that has been said, by an allusion to one of these! For instance, you may be arguing for music, as an amusement not more unfailing, than it is, in a proper degree, innocent; when, in an instant, you are overthrown by an allusion to the fantastic enthusiasm occasionally manifested by amateur musicians. It is bad when this result takes place through pure want of philosophical habits of thinking on the part of your opponent, but it is much worse when you are prostrated by one who errs through design.—There is a set of dishonest thinkers and reasoners, who cunningly evade the general weight of an argument, and only exert themselves when their opponent has made a somewhat rash assertion, or advanced a hypothesis which clashes a little with existing prejudices. They will allow as much of the wind of sound logic to pass, as might have sufficed to blow them twenty times out of the water; they will—to use an appropriate proverbial phrase—*jouk* to a whole tide of convincing discourse; when, let but a single puff of the breeze or a spark of the foam afford matter for exception or reproach, and there do the dastards take up their ground of opposition. They may be unable to find a single fault in the thing itself; but it would be a wonderful thing which could not be connected or associated with something not so pure. The slightest hint, the most oblique reference, the mere suggestion of the association, is enough, with the class of equestrians which we are describing, to enable them, in their own conceit, and that of perhaps a great proportion of indifferent bystanders, to turn the tables upon unsunned snow itself.

The success of tangential equestrianship depends much on the effect which the objection or exception has in disconcerting the opposite party. And, sometimes, the very futility of the objection, its miserable smallness, occasions more perplexity than would a sound argument, for the very sense of the absurdity of giving it the importance inferred by a reply, is confounding. In such circumstances, we conceive that it is much to be desired that a ready means of retorting the ridicule should be in possession of the injured party. Such a means appears to be afforded by the use of the phrase *riding off*. Let the philosophical absurdity of riding off be in the first place generally understood. Let its meanness and dishonesty as a controversial trick be in like manner known to mankind. The phrase then becomes a talisman, to awaken, in an instant, in all companies, a full sense of the weakness and vileness of the practice. Were it thus introduced into general use, the certainty of being met by the exclamation "riding off!" would, if we are not greatly mistaken, keep many silly and many unconscientious people silent.

While we are upon this subject, we cannot omit the opportunity of further adverting to the bad logic which is invariably found among the less educated classes of society. The cause of much error of opinion is to be found in that careless and indolent habit of mind, which easily admits the truth of any proposition, without being at the trouble of examining it, or of verifying it by a reference to facts.—Many are disposed to admit as true whatever is confidently asserted; and if it appear under the solemn and imposing sanction of print, to express any doubt or misgiving regarding it, would be thought in the utmost degree unreasonable. It is thus that errors exercising an evil influence over the condition of the uneducated, and calculated to obstruct their progress in the path of improvement, hold a despotic sway over the mind: and their reign is perpetuated through the influence of that submissive obedience which so many blindly render to them, without venturing to contradict their truth, or question their authority.

There are other errors which, through mere popular currency, acquire all the stability of the most fixed and valuable truths. They are like forged bank notes which have contracted the soiled and tattered appearance of a long-continued circulation, and which pass as genuine with each successive dupe, because he does not take the trouble to examine them. There is this difference, however, between the receiver of the false bank note and the receiver of the false opinion, that the former passes the counterfeit as genuine, never discovers his mistake, and suffers no loss; whereas the latter probably suffers material injury from the adoption of an error, and is the means of transmitting the error and the injury to others. Among the less educated classes, there are many such errors afloat, which it would be no easy matter to expose to detection.—They who indulge them are not distinguished for careful or accurate reflection, and they readily adopt without inquiry whatever opinions are current among those with whom they have daily intercourse. They are practically much disposed to be misled by the logical sophism of *assigning that as the cause which is not the cause;* and sometimes, by an apparent correctness and ingenuity of reasoning, they arrive at the most erroneous conclusions. In the ordinary matter of attention to their own health, the fallacy just named has a fatal influence. We have known individuals so uninstructed, and so perverted in their opinions, as to believe that a want of cleanliness, if not conductive to health, was at least not detrimental to it. There is, indeed, a proverb pretty common among the poorer classes in Scotland, which is rather unsavoury for our pages, but which most graphically expresses that there is a close connection between nastiness and good fortune. It is remarked that, among certain classes of the poor, the children are all strong, notwithstanding the rough treatment they undergo. The reason is obvious, that, among them, even as among savages, the weak ones all die. Speak to a person of this class of attention to health, and he will exclaim, "There's nane sae unhealthy as them that are aye takin' care," and he will moreover proceed to support the truth of his opinion by numerous proofs, perhaps concluding with the case of "auld James Tamson, that never took ony care o' himsel a' his days, an' he's now gaun in his seventy-ninth year, living and life-like." It never occurs to our logician that *James* has lived to this great age, not in *consequence* of his carelessness, but in *spite* of it; and that the treatment which he has miraculously survived has had the effect of carrying off thousands to untimely graves, by all the diversities of unnamed diseases common among the poor—"sair sitten doun caulds," "clochers o' hoasts," "an unco breathlessness," &c., almost all the result of their own carelessness.

The same mode of perverted reasoning leads to a very gross and prejudicial error in regard to habits of temperance. We had occasion once to offer advice to a young man in a humble walk of life on this subject, and as he urged that the severe nature of his employment rendered additional nourishment necessary, we endeavored to persuade him that there was no nourishment whatever in ardent spirits. His reply was, "I dinna like, sir, to say you're lein'; but—nourishment!—I've heard my mither say fifty times that a glass o' whiskey was just a perfect medicine." Nothing is more common than to argue, perhaps from a single and extraordinary case, that intemperate habits are not very prejudicial to health; or, if few will be found to express such a sentiment directly in words, many suffer it to have indirectly a most pernicious power over their minds. To be able to adduce one case where intemperance did not injure the health, seems to countervail the thousands of cases where it was most plainly the cause of death. We remember an aged bottle veteran who survived the worst treatment that the human constitution perhaps ever endured, and who attained to the advanced age of ninety-two. This toper was indirectly the cause of intemperate habits in many, who sank into their graves while he continued in his libations. When the question came to be discussed, whether drunkenness was really very hurtful to the health, the conclusion arrived at was couched in some such overwhelming question as this: "Isna there auld Johnny Reddie, near ninety, that's been drinkin' hard this fifty year and mair, an' is as hale as the best o' us?" This was irresistible. "Johnny" had indulged the practice for upwards of half a century: *therefore* the practice could not be hurtful. It was curious that no one thought of mentioning the vast numbers, who, by their pernicious habits, had literally killed themselves; and that it never occurred to the sapient reasoners that this extraordinary individual had survived half a century's drunkenness, not in *consequence* of it, but in *spite* of it.

The same perversion of opinion is observable in numberless other instances. How much would society gain in comfort and happiness, could these errors be generally shown to be false! And how much misery might be avoided, were men less under the influence of opinions which have nothing to recommend them to belief but general currency!

ON THE STANDARD MEASURES OF THE BRITISH EMPIRE.

Three or four years ago the Council of the Royal Astronomical Society appointed a committee to direct the construction and verification of a standard measure of length, &c. The report of this committee, from the pen of Mr. F. Baily, has lately been read to that society, and we propose to give some account of his very interesting and elaborate paper, so far as it immediately concerns the public.

It would seem that, notwithstanding the express injunction of Magna Charta, that there should be a uniformity of weights and measures throughout the realm, this never took place.* The original standard appears to have been kept at the Exchequer, but as it was held that any authenticated copy of this, or even a copy of a copy was a legal standard, the measure became altered in every possible way. "Thus (as is said in the report of a Commons' committee, in 1758) every error was multiplied, till the variety of standards rendered it impossible to know what was the true standard, or to apply any adequate remedy."

The first attempt made to ascertain and fix the standard measure of this country was by a committee of the Royal Society, in 1742. Two square brass rods were made, on which the celebrated Graham set off three feet from the standard kept at the Tower. The rods were sent over to Paris, and the Royal Academy of Sciences having set off the half toise on each, returned one to London, where it was deposited in the archives of the Royal Society, and kept one themselves. An objection being taken that the *true* English standard was the yard at the Exchequer, while that at the Tower was only a copy, Mr. Graham set off on the same scale the Exchequer yard, and made at the same time a careful examination of many of the standard measures then existing in London.†

In 1758, a committee of the House of Commons was appointed to inquire into the original standards of weights and measures. They presented a valuable report, in which they state that they had caused two rods to be made by Mr. Bird, one straight, and the other with checks; that these, along with that of the Royal Society above described, having been laid all night at the receipt of the Exchequer,

* Before the Lords' Committee, in 1823, Dr. Kelly stated that 200 laws have been enacted to secure uniformity in weights and measures without success, and that 500 various measures have been adopted in defiance of those laws.

† So rude were these standards that a difference of an inch would be found in seventeen yards by the Guildhall and Clockmakers' Companys' measures.

with the standard of weight kept there, were next morning *all* compared, and found to agree as nearly as possible. They recommend the straight rod, marked 1758, to be considered the proper standard, and that with checks to be kept at the Exchequer for common use. There would appear to be some mistake in the report, when it is said that *all* the standards agreed, unless the word be confined to the *Tower* yard marked in the Royal Society's scale and the new rods. These, in fact, agree pretty well, but exceed the old standard of the Exchequer by about 1-140th inch. Another committee, 1759, agreed in this recommendation, and ordered a copy of Bird's standard to be made, and deposited in some public office, to be opened only on special occasions. This copy is marked 1760. By the prorogation of Parliament, the bills founded on these reports were unfortunately lost, and matters remained as before.

What was thus left incomplete by the government, was taken up by Sir George Shuckburgh, who has stated the result of his inquiries in a paper in the Phil. Trans. for 1798. The scale used by him was made by the late Mr. Troughton, which was a copy of one made by that celebrated artist for his own use, which again, for its extreme length, was a copy of a scale made by Bird, from what authority we do not know. Several other copies of his own scale were made by Mr. Troughton for public bodies and for private individuals; and it is this *family* of scales which has the greatest vogue, and most extended circulation. Sir George compared several standard measures, and has given their lengths in the above-mentioned memoir, in terms of his own scale.

These determinations, though corrected by Mr. Baily, can only be considered as tolerable approximations from several causes which we cannot here enumerate.

In 1814, a committee of the House of Commons recommended that Bird's standard of 1758 should be the unit of measure. In 1819 a commission was appointed, which, at first, recommended that the scale used by General Ray, in the Trigonometrical Survey, should be the standard;* but afterwards, on discovering that an error had been committed in the construction of some of the instruments, recommended that Bird's standard of 1760 (a copy, it must be remarked, of that of 1759) should be adopted. On these reports an act of Parliament was founded, which passed in 1824, declaring "the distance between the dots in Bird's rod of 1760 to be he standard yard, at a temperature of 62 degrees Fahrenheit;" and, moreover, "that if the said imperial yard should be defaced or lost, the new yard should bear to a simple pendulum vibrating seconds of mean time, in the latitude of London, in a vacuum, at the level of the sea, the proportion of 36 to 39, 1393."

On the directions of this act we may be allowed to remark, that a copy was preferred to its original; and that the dots of the declared standard were so large and so irregular, as to leave a great doubt as to the true position of their centres; and finally, that the experiments from which the length of the simple pendulum was concluded, are *now* known to have been inaccurate. And as the disastrous fire which consumed both Houses of Parliament, destroyed both the standard of 1760, and its original of 1750,† there is not at present existing a measure which can be called a standard yard, nor would the act enable us to construct one in conformity with the old one.

Fortunately the attention of the Council of the Royal Astronomical Society had been directed towards this subject three or four years ago, by Mr. Baily; who, in his experiments on the length of the simple seconds' pendulum, had been led to doubt the accuracy of Captain Kater's deductions, and the wisdom of the directions of the legislature. A committee was appointed to superintend the investigation, and Messrs. Troughton and Simms were directed to construct the necessary apparatus. For the details of this delicate inquiry our readers must be referred to Mr. Baily's Report. We can only say they are such as to reflect the highest credit upon the artists who supplied the apparatus, and on the gentlemen who contrived the experiments and made the observations. The standard of the Astronomical Society having been compared many hundred times with the then existing imperial standard, by various experienced observers, and with every precaution to obviate error, may safely be declared the most complete copy of an original that ever was taken. The Danish and Russian governments had applied to the society, through Professor Schumacher, for similar standard measures, which were carefully compared both with the imperial standard and the scale of the Astronomical Society; and Mr. Baily and Mr. Simms (the partner and successor to Mr. Troughton) took the same opportunity of furnishing themselves with standard measures; so that there are now five verified transcripts of the late imperial yard of the most perfect construction and similarity.

Mr. Baily has also compared the French standard measure with that of England, but the fatality which seems to have hitherto marred our proceedings has been equally pernicious in France. The French metre is still an uncertain quantity, but with this we have at present no immediate concern; it is more immediately important to point out the proper mode of following up and profiting by what has been already done.

1. The trigonometrical survey of Ireland ought to be estimated in units, depending on the Astronomical Society's standard; and as the unit of the English survey is really unknown, a new base ought to be measured in terms of the same standard, to which the whole may be referred. As the English, Irish, and French surveys are connected by common sides, the triangulation from the Shetland Isles to Formentera may be expressed in the same terms; without which previous step it would be unsafe to discuss some of the anomalies presented by the survey. Authentic copies should be transmitted to France and India, to be compared with the toise of Peru and the Indian measures; and in future no extensive survey should be commenced under English auspices without a previous careful estimation of the base apparatus in terms of this standard.

2. The legislature should repair the errors they have hitherto committed, and prevent the folly they would probably commit if, with their necessary unacquaintance with these subjects, they should make any new attempt at fixing a measure, by declaring, with all convenient speed, that "the imperial standard yard is less than the centre yard of the scale of the Royal Astronomical Society, when supported on rollers as described in Mr. Baily's report, and a temperature of 62 degrees Fahrenheit by .000376 of an inch."* The Astronomical Society would, no doubt, cede their scale to the government, and the country would then possess a standard easily consulted or copied, of undoubted accuracy, and in perfect accordance with the preceding standard of 1760.

3. For the ordinary business of life, copies could easily be made and verified, and methods adopted which would give an accurate and invariable standard of length. The government might either intrust this task to the same body which has successfully triumphed over the still greater difficulties of establishing a standard measure, or appoint an intelligent committee to carry it into execution. At present, the verification of standard measures of length is a very rude and unsatisfactory process. However the government may act, it is certain that the scientific English measure will for the future be taken from the scale of the Astronomical Society. This is a great point gained, for which science is indebted to the talents and exertion of the Astronomical Society's Committee, and most particularly to Lieutenant Murphy, R. E., and to Mr. Baily.

THE NORTHWEST PASSAGE.

The papers have generally noticed the offer of DR. KING, the companion of Capt. Beck, made to a literary society in London, to undertake another expedition to decide the question of a northwest passage. The following are the particulars of his proposition given in his own words:

"Having served in the Arctic land-service for a period of nearly three years, during a third of which time I was honored with the command, I am induced to propose an expedition for the complete survey of the coast of the Polar Sea, from Point Turnagain, eastward, and for determining the Isthmus of Boothia Felix. This proposition I have had the honor of laying before His Majesty's government, to which I have not received an official answer. Past experience makes me feel confident of success, and fix the period for its accomplishment at three years. the expense not exceeding 1,000*l*. The expedition will consist of an officer and six men; the men to be hired at Montreal, in Lower Canada, and thus the expense of taking them from this country would not only be saved, but their pay up to the 20th of April, the period I hope to leave Canada for the interior. It is not a little gratifying to me, however, to be enabled to state that five of the men lately under my command have volunteered their services without renumeration. Having completed my crew, and obtained the necessary outfit, I should embark in a canoe, and proceed to Lake Winipeg to secure eight bags of provision necessary for the sea-coast voyage, whence I should make direct for the Atabasca Lake. Here would begin a new survey for the purpose of ascertaining a shorter route to the Great Fish River than by the Slave Lake. This track is well known to the Chippewayan Indians, whose authority is much more to be depended upon than the public have hitherto been led to believe. Convinced of the practicability of the route, and, from the shortness of the summer in very high latitudes, aware of the importance of making a rapid march to secure as much time as possible for the discovery of the coast, I shall take a guide, and as the chart, copied from one drawn by an Indian, now presented to the meeting will show, pass from a bay of the Atabasca Lake, by a chain of four lakes impeded by five short portages to the Tazennatooy, a lake into which two rivers empty themselves The discharge of the Tazennatooy forms the Tazennadezza, which widening forms the Newstethtooy, and again narrowing is called the Newstethdezza, which falls into the Slave Lake. The Indians do not pass far down the stream, but make a portage to a lake that is tributary to it. They then pass by a river, or rather a chain of lakes, which narrows for some distance, when they make a short portage to Large Hares' Lake, whence a river of considerable size takes its rise. After having descended this river for some distance, by making a short portage, they fall upon a stream that is tributary to the Great Fish River, which runs into that river sufficiently low to avoid all the shallows, and many of the rapid parts. The large river (the Thleweedzza) which I have just mentionod is said to run parrallel with the Thleweechodezza, both of which fall into the sea close to each other; and, what I think of importance, with respect to the New River, it having been reported as well wooded, and the haunt of moose deer, an animal only frequenting well-wooded ground. On the banks of the New River I should winter, as having several advantages—in the first place, as being the resort of an animal that migrates less than the raindeer; secondly, as bands of the Chippewayan Indians winter there—a people that never congregate in large numbers, as the Copper and other Indians, and consequently but rarely meet with those disasters so common to tribes that acknowledge a chief, and keep in one body; thirdly, as enabling me to take advantage of the breaking up of the first ice, which, in any situation like Fort Reliance, our last wintering-house, where lakes were before us, I could not. As early as possible the following spring I should descend the Great Fish River to its mouth, in 67 deg. 7 min. N., and 94 deg. 40 min. W., and having ascended the inlet to the furthest point make by us, in lat. 68 deg. 13 min. 57 sec., and long. 98 deg. 58 min. 1 sec. W., make direct for Point Turnagain, and afterwards to the eastward, to clear up the point now at issue respecting the isthmus of Boothia Felix. Whatever may be the issue of the attempt westward, there is hardly a doubt but the long-agitated question of a northwest passage by Regent's Inlet will be set at rest for ever. And when by a reference to that chart it will be seen, one day's sale or two day's labor, and another anxious night beyond the ground I have already passed over, may lead to the discovery of that passage which has been a favorite project with England for nearly three centuries, I do hope there will not be a dissenting voice to the enterprise we have now met to consider."

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* The survey of England and Scotland is expressed in yards, but the length of that yard is unknown.

† This fact seems to have escaped the attention of government, for the act (5 and 6 Wil. IV., c. 63) refers to the standard, and quotes it as an authority to be appealed to, though it had ceased to exist nearly a year before.

* This is the result of more than five hundred comparisons.

SHOPS AND SHOPPING IN INDIA.

The attention and flattery which ladies, who possess any claims to admiration, receive in India, must be exceedingly gratifying to those who are consoled by such homage for the loss, or rather the curtailment, of one of the most delightful recreations of the sex—namely, *shopping*. In many parts of the Upper Provinces, years may elapse without affording an opportunity for the purchase of a single European article, excepting by commission. Friends at some distant station must be applied to; and should the supply of goods not be very superabundant, the refuse of the *box-wallah's* stores are rummaged over, and the purchaser must take what she can get, and be thankful.

Remote inland stations are very rarely visited by travelling merchants, who are afraid of incurring the expense of the conveyance of their goods upon an uncertainty, and thus trade is wholly confined to native dealers; a solitary *box-wallah* making his appearance occasionally, and asking upon his arrival such an extravagant price for his merchandize, as to render the purchase almost out of the question. Europeans are expected to pay exorbitantly for the products of their own country when the supply is scanty; and ladies have often the mortification of seeing an article, for which a very fair price has been refused, figuring on a person of one of their attendants, who has got it for next to nothing. Stations on the river are better supplied; few boats come up without bringing some small investment, by which the *dandies* (boatmen) hope to increase the profits of their voyage; and European shopkeepers frequently engage a *budgerow*, freighting the vessel with all sorts of articles for which there is any demand. Upon their arrival at the *ghâut*, they send a catalogue round to the different resident families, with the prices affixed, and too frequently a tantalizing notice, "all sold," against the items most in request.

The joy with which the arrival of any long-desired object is hailed, of which the attainment was nearly hopeless, is great. Ladies' slippers, especially of European manufacture, which happen to fit, seem like a blessing sent from heaven, after having gone almost barefoot in the soft, ill-shaped, spongy-soled shoes, of native construction. Even Chinese Crispins, though they are by far the best to be found in India, and bear a very high reputation, do not supply their fair customers with those Cinderella-like shoes, which alone are fitted for delicate feet. The upper portion may be constructed of beautiful and appropriate materials, satin or prunella; but there is always a falling off in the soles, which are made of leather not sufficiently tanned, while the heels are never properly stiffened. Native shoemakers succeed better with gentlemen's boots, &c., those from Europe soon becoming too hard to be wearable. The happiest efforts of Hoby must be discarded for a base imitation, which has the merit of being more comfortable and better suited to the climate. A wide street in Calcutta, called the Cossitollah, is almost filled with the shops of Chinese shoe-makers, who make satin slippers, to order, at four shillings a pair, and prunella or jean for three. It seems a thriving trade, these operatives being always well dressed in the costume of their country, wearing upper garments of silk when they walk abroad, or repair to European houses to take orders and measures. Some of the native shoes are very handsome, but they can only be worn by foreign residents as slippers when in their dressing gowns; the heel, though it may be raised at pleasure, is laid down across the inner part of the sole; the points are peaked, and turned up; and the whole is stiffened with embroidery, beneath which a very small portion of the cloth or velvet composing the shoe is to be seen.

The only shops in Calcutta, which make much show on the outside, are those of the chemists and druggists, who bring all the London passion for display to a foreign country: they exhibit splendid and appropriate fronts duly embellished with those crystal vases, in which gems of the most brilliant dye appear to be melted. They are flourishing concerns, and the establishment of manufactories of soda-water has added not a little to their profits. Until of late years, this refreshing beverage, which forms one of the greatest luxuries of a tropical climate, was imported from Europe and sold at a very high price; there is now a large establishment at Futtyghur, which sends out supplies all over the country.

An officer, having a high command at the time that Java was taken from the Dutch, found a mineral spring upon the island of bright sparkling bubbling water, as delicious and refreshing as that which, when bottled and stamped with the seal of the Duke of Nassau, travels to every quarter of the globe. He instantly made the discovery known to the captain of a trader, who freighted his vessel with it for the Calcutta market, where it obtained a rapid sale; but it does not appear that any permanent advantage was derived from this event, or that the Dutch government were aware of the existence of this fountain, which springs in the midst of a thick forest, and is in all probability only the resort of the poor natives in the vicinity.

The European jewellers' shops in Calcutta are large and handsome; they do not make any show on the outside, but the interiors are splendid; the pavement of one or two is of marble, and the glass-cases on the various counters display a tempting variety of glittering treasures—diamonds of the first water, pearls of price, with every precious stone that can be named, in rich profusion. The setting of these gems is exceedingly beautiful, and according to the most fashionable patterns of London or Paris, neither of those places boasting a more superb assortment; but the prices are so ruinous, that it is wonderful where sufficient custom can be obtained to support establishments of the kind, of which there are at least four, in addition to the vast number of native artisans, who are not only exclusively employed by their own countrymen, but do a great deal of work for Europeans. Nothing could be more unconscionable than the profits which English jewellers sought and obtained for their goods in those days in which wealth flowed into Calcutta from many sources now cut off. Hitherto the European shop-keepers of Calcutta have transacted business in the most arbitrary manner, according to their own devices, without any reference to the regulations of trade at home.* They have had no competition to dread excepting with the natives, whose retail business, though extensive, has been carried on in a silent, unostentatious manner.

Formerly, an idea was entertained that European goods could only be obtained in perfection from European dealers; but this notion is now exploded, and it will be seen, in the course of these remarks, that the shopkeepers of both countries obtain their supplies from the self-same sources. It is the policy of Europeans to cast a stigma on their native competitors; for, living at an expensive rate, they are obliged to charge enormously for their commodities; while the humbler-minded native, whose whole establishment is maintained at a very small cost, is enabled to sell at a fair profit. In their anxiety to secure the genuine productions of Hoffman, or some other noted London house, families have sent to the accredited agents of these traders in Calcutta, paying of course the highest price, and have afterwards discovered that the vender, being out of the article, has kept the messenger waiting, while he dispatched one of his own people to the bazaar, where it was to be had for about a fifth part of the money put down to their account.

Fortunes, however, are not accumulated in the rapid manner which might be surmised from the immense profits thus obtained; the goose is too often killed for the sake of its golden eggs, and customers are driven away in disgust by some piece of rapacity practised upon them. The princely style of living, also, afforded by Calcutta shop-keepers, forms another drawback; they spend nearly as much as they gain, there being little or no difference between the establishment of a first-rate tradesman and that of a civil servant. The modest few, who are content to occupy their houses of business, and who do not display close carriages and services of plate until they have realized sufficient capital for the indulgence of such luxuries, must inevitably acquire considerable wealth; at least the opportunity has been offered under the old regime. But the stern necessity for retrenchment felt by so large a portion of the community, and the paralyzation of trade consequent on the late failures, together with the host of adventurers, which the alteration of the East India Company's charter will in all probability send out, cannot fail to effect a striking change in the mercantile classes of Calcutta.

Next to the jeweller's shops, the most magnificent establishment in the city, is that of the principal bookseller, Thacker & Co.; there are others of inferior note, which have circulating libraries attached to them; but the splendid scale of this literary emporium, and the elegance of its arrangements, place it far above all its competitors. The profit obtained upon books is more moderate than that of any other European commodity, the retail prices being entirely regulated by those of the London market; rupees are reckoned for shillings; a book which is sold at the publishers at home for a pound, is charged at twenty rupees in Calcutta; and, considering the cost of freight and insurance, the perishable nature of the commodity, and the very great care requisite to secure both leaves and binding from being injured by damp, or devoured by insects, the price cannot be considered high. Books intended for sale must be carefully taken down from the shelf and wiped every day, and not only the outside, but the interior also, must be examined; a work of time which, in a large establishment, will occupy a great number of servants. The warping of splendid bindings in hot weather, and the rusts and mildews of the rainy season, must be taken into account; while the white ants being no respectors of engravings, notwithstanding the greatest care, a *hiatus* will sometimes be visible in the centre of some superb specimen of art from the *burin* of Finden, Heath, or others of equal celebrity.—The most expensive standard works are always procurable at this establishment; and though it may be cheaper to literary clubs and book societies to import their own supplies from London, so much must be left to the discretion of the agent employed, and, in the trade, there is such great temptation to get rid of unsaleable volumes, that, in the end, little saving is effected.

Immense consignments of books sometimes come out to Calcutta, through different mercantile houses, which are sold by auction, and are often knocked down for a mere trifle. American editions of works of eminence also find their way into the market at a very cheap rate; and those who are content with bad paper, worse printing, and innumerable typographical errors, may furnish a library of the best authors at a small expense. The way in which a fashionable novel is got up is of little importance out of London, where an inelegant appearance would condemn the ablest production of the day; but in works of science, and those intended for the diffusion of useful knowledge, the mistakes and misprints, which are of constant occurrence in the American editions, may produce mischievous consequences. The inhabitants of Calcutta, or its occasional residents, can alone be benefited by the shoal of books brought upon the coast by a fleet more than ordinarily freighted with literary merchandize. The supply at outstations never is superabundant; it is only at such places as Meerut and Cawnpore, that booksellers' shops are to be found, and their catalogues are exceedingly scanty, people generally preferring to send to Calcutta than to take the chance of what may be obtained from a shopkeeper, who has not sufficient custom to lay in an extensive stock. At the Cape of Good Hope, the beach is said sometimes to be literally strewed with novels; an occurrence which takes place upon the wreck of a ship freighted from the warehouses of Paternoster Row; and certainly, in the streets of Calcutta, those who run may read; for books are thrust into the palanquin-doors, or the windows of a carriage, with the pertinacity of the Jews of London, by natives, who make a point of presenting the title-pages and engravings upside down. Some of these books seem to be worthy of the Minerva press in its worst days; and it is rather curious that novels, which are never heard of in England, half-bound in the common pale blue covers so long exploded, and which do not figure in any of the advertisements ostentatiously put forth on the wrappers of magazines, &c., are hawked about in the highways and byeways of Calcutta; and, as they are not expressly intended for foreign markets, it must be presumed, though the fact appears doubtful, that there is some sale for them at home, and that "Mys-

* The jewellers, especially, set no bounds to the exorbitance of their demands. The counterpart of a gold smelling-bottle set with precious stones, which was sold in London for fifteen pounds, had the modest price of seventy affixed to it in Calcutta. A common chain of hair, with a locket attached to it, of the plainest description, was charged seven pounds ten; not being executed according to order, it was sent back for alteration, and sixteen shillings added to the original bill, for the reparations of the blunders made by the workmen. A perfumer charged six shillings for an old bottle sent with a sample which was disapproved; and whole pages might be filled with similar instances of the utter disdain of the recognized principles of trade exhibited by the shop-keepers of Calcutta.

terious Involvements," "Errors of the Imagination," and "Delicate Dilemmas," still find supporters among the twaddlers of both sexes.

Though the jewellers must be styled the ruination shops of Culcutta, the establishment of Messrs. Tulloh and Co. may be called the Howell and James of the city of palaces. It is seldom without a vast concourse of carriages at the door, and the attractions within are of a superior order. On the ground floor, a large but by no means handsome hall is set apart for auctions; a pulpit is erected in the centre, and every description of property (houses, horses, carriages, &c. down to thimbles and needles) comes under the hammer in the course of a short time; sales of all kinds being very frequent. The auction room is accessible to males alone; it is open to the entrance-hall, but should a lady wander by mistake into the forbidden precincts, she becomes the talk of Calcutta; it is an act of *griffinism*, which strikes the whole community with astonishment and horror. A broad flight of stairs leads to a suit of apartments above, in which there is a multifarious assortment of merchandize, oddly enough contrasted, the merest trumpery being often placed in juxtaposition with articles of great value. The walls are hung with framed engravings, many of them from plates nearly worn out, intermixed with others of a supetior description, and a few bad paintings; an accurate knowledge of the art being confined to a very small number of persons, and the worst specimens having as good a chance, especially with the natives, of procuring purchasers, as those of a higher order.—The tables and counters are covered with glass cases, containing various kinds of British and foreign *bijouterie;* others support immense quantities of China and glass, lamps, lustres, and mirrors; there are quantities of silk mercery and linen drapery, and upholstery of all sorts. At one time, a tempting collection of furniture *en suite*, fitted for a boudoir, was displayed in these ware-rooms, which would have formed an appropriate decoration for the most *recherche* cabinet of the fairest queen in the world. It consisted of a work, sofa, and circular table, six chairs, and a couch of the beautiful black lacker, which even Chinese art cannot imitate.—The landscapes were of the richest and most splendid enamel, and the cushions and draperies of pale green damask. They had been made in Japan, to order, from drawings or models sent from Calcutta, and were therefore of the most fashionable and approved form.

The gentleman who had despatched this splendid commission did not live to see it completed, and it was consigned by his executors to Messrs. Tulloh and Co., to be sold for the benefit of the estate. Many bright eyes were directed towards these elegant decorations, although the circumstance of their not being of European manufacture lessened their value in the estimation of the greater number of gazers, who would have preferred glittering trumpery from France. The expense rendered a speculation for the English market rather hazardous; the price of each chair was four pounds, which together with the freight and the *ad valorum* duty imposed at the custom-house of London, would have rendered it too costly for a fair chance of profit. Stuffed Chinese birds, beautifully arranged in glass cases, are amongst the rarities of Messrs. Tullohs' emporium; these were reckoned cheap at fifty pounds a case, and in all probability found purchasers in the captains of trading-vessels. Native sircars, who speak English, attend to acquaint the visitors with the different prices of the articles; but there are no chairs for the accommodation of the ladies, who in the hottest weather must either walk about, stand, or sink exhausted upon the stairs. Large consignments of goods, to be sold by auction upon some future day, are frequently exhibited; but ladies, however anxious they may be to become purchasers, are not permitted to select any of the lots at a fair price, although the sale may be so peremptory as to amount almost to giving them away. Such is the despotism of custom at Calcutta! Flaming advertisements, which put the ornate and elaborate productions of George Robins to shame, draw crowds of carriages to Tullohs' rooms; and great is the disappointment of the fair visitants, when, as it frequently happens, they see the old-remembered articles in their accustomed places, as well known as the Ochterlony monument, with as little chance of ever being removed from their site. No abatement whatever is made in the price, in consequence of the dilapiditions which time may have occasioned; bargains are only to be procured at auctions, and the stock remains on hand during time immemorial, while newer and more fashionable importations, of the same nature, are knocked down to the highest bidder for any thing they will fetch.

Mackenzie and Lyall, and Leyburn and Co., have establishments similar to that of Messrs. Tullohs, but neither so extensive nor so splendid. The sircars in attendance—fine gentlemen, profusely arrayed in white muslin, and evidently fattening upon their profits—assume a cavalier air, and seem to take any disparagement of their employers' goods in high dudgeon. Auction-rooms are attached to the premises of both these parties, and the heads of all the establishments are expected to officiate in turn. This is a *sine quâ non*, and many gentlemen, who would otherwise have devoted their time and property to mercantile pursuits, have been prevented from entering into a partnership with these firms, in consequence of the unpleasant nature of the duties. According to the old system, an auctioneer, however respectable his connexions might be, and whatever his previous rank, was not admitted into society. The rigid exclusiveness of etiquette has somewhat relaxed in the present day, and military and civil servants do not object to meet at other houses, or receive at their own, those persons who were formerly considered to be quite beyond the pale. Still the ascent of the rostrum is considered to entail the loss of caste; and it is supposed that the rigid enforcement of the rule is made to preserve equality amongst the partners of the establishment, who are or were all rendered equally unpresentable at the vice-regal court.

Besides the quantity of goods, daily disposed of at auctions, there are vast accumulations, which seem to be utterly forgotten, in the *godowns*, or warehouses, belonging to every merchant. The terms applied to these receptacles is a corruption of the malay word *Gadong*. The ransacking of the vaults and store-places of Calcutta, and the discovery of all the strange things which the rats and white ants have left unconsumed, would be an amusing employment. What a quantity of forgotten lumber would see the light! Patent lever fids, and other vaunted inventions, equally at a discount, lie mouldering in these recesses with things of greater value and utility, crates of china and glass, hardware, perfumery, &c. &c. Perhaps, in no other place are there such numerous commodities put out of sight, and totally out of memory, as at Calcutta. The consignees who have failed to dispose of goods according to their invoice prices, and who have not received instructions to sell them by auction, allow them to choke up their warehouses without an effort for their rescue from oblivion. All that is perishable is, of course, speadily demolished; a destiny little anticipated by the sanguine speculator, who perchance hoped to lay the foundation of his wealth in the Calcutta market.

Though this market is sometimes overstocked with the luxuries of the table, yet as the "eaters of ham and the eaters of jam," as the European community have been styled by a witty writer in the *Bengal Annual*, are insatiate in their demand for the sweet and savoury importations from oil, pickle, and confectionary-shops, they form the safest investment. Upon the arrival of a ship freighted with preserved salmon, lobsters, oysters, herrings, and other exotic fish; hams, reindeer-tongues, liqueurs, dried fruits, and a long list of foreign dainties, the wholesale purchaser, anxious to sell them in their freshest and purest state, usually puts forth a series of advertisements, in which the art of puffing is carried to its fullest extent. Nothing is too absurd to be printed in the Calcutta newspapers; the vauntings of Day and Martin must hide their diminished heads before those which figure in our eastern periodicals. Numerous pens are engaged in the composition; the young men in the "Buildings," the grand patronizers of tiffins and suppers, frequently lending their assistance at a sounding paragraph, and encouraging the perpetration of divers execrable jokes, and familiar invitations in the worst taste imaginable. Cheese, in these shops, is sold for three shillings a pound; ham frequently at four, and everything else in proportion.

Happily, the economical part of society may furnish their tables at a cheaper rate. The native bazaars of Calcutta, in which European goods are sold, though not very tempting in appearance, are well stocked. They consist of a collection of narrow streets, furnished with shops on either side, some of which have show-rooms on the upper floor, but all darker, dirtier, and more slovenly than those in the fashionable quarters of the city. The *Soodagurs*, fat, sleek, well-dressed men, clad in white muslin, and having the mark of their caste (if Hindoos) painted in gold upon the forehead and down the nose, stand at their doors inviting customers to enter. Capital bargains are to be obtained by those who are willing to encounter the heat, fatigue, and abominations which beset their path. It is not, however, necessary to inspect these districts in person, as a sircar may be employed, or samples of the goods sent for. The millinery exhibited in these places is absolutely startling, and the people are puzzled to guess how it can ever be disposed of; but this mystery is solved by an apparition not unfrequent, a half (or rather whole) caste female,—for many of the Portuguese are blacker than the natives,—belonging to the lower ranks, attired in the European costume. No Christian of European descent, however remote, ever wears a native dress. Rich Indo-British ladies attire themselves in the latest and newest fashions of London and Paris, greatly to their disadvantage, since the Hindostanee costume is so much more becoming to the dark countenances and pliant figures of Eastern beauties: those of an inferior class content themselves with habiliments less in vogue, caring little about the date of their construction, provided the style be European. At native festivals, the wives of Portuguese drummers, and other functionaries of equal rank, are to be seen amid the crowd, arrayed in gowns of blue satin, or pink crape, fantastically trimmed; with satin slippers on their feet, their hair full-dressed, and an umbrella carried over their heads by some ragged servant, making altogether an appearance not very unlike that of Maid Marian on May-day. To these ladies, in process of time, are consigned the blonde lace, or silver lama dresses, to which, on their first arrival in India, so exorbitant a price was affixed, that nobody could venture to become a purchaser. After displaying themselves for years in a glass case at Leyburn's, they suddenly disappeared, remaining in the deepest oblivion, until some lucky *box-wallah* procures a customer unacquainted with the changes which have taken place in the London fashions since the period of their debût from the *boutique* of a first-rate professor.

Amidst an intolerable quantity of rubbish, articles of value may be picked out; the piece-goods are equal to those which are obtainable in magazines of higher pretensions, and the hams, cheeses, oil-man's stores, &c., are of the best quality; and furniture, palanquins, in short, all the necessaries and conveniences of life, are to be found at these bazaars. The shop-keepers are, for the most part, very rich native settlers in Calcutta, having derived more benefit from the increasing opulence of the city, than any other class of its inhabitants, since the greater part of the wealth flows through their hands. Having large capitals, they are enabled to purchase the whole of a captain's investments direct from the ship; the principal European establishments do the same, putting about twenty per cent. upon the original price. Many of an inferior class, having no ready money, are obliged to go into the China bazaar, and buy from the natives (perhaps upon credit) those European commodities they are unable to procure at first-hand; yet these men live in the same style as the large capitalist, driving about in the streets in buggies, and disdaining the thrift and economy which their brethren at home are compelled to practise.

Under the British Government, the Mussulmans or Hindoos, who have accumulated property, are not afraid of making a display of it in their shops or warehouses; destitute of those apprehensions which, in the days of anarchy and despotism, embittered the enjoyment of riches, they pursue their avocations with a keenness and avidity which bid defiance to all rival efforts. Ready-money customers do well to make their purchases of persons willing to sell at a fair profit; but there is some danger of getting into debt, or borrowing largely from a Hindoo. The Jews—a class of persons with whom, in other places, pecuniary dealings are to be dreaded—form in Calcutta so small a portion of the community as scarcely to be worth naming. They have little chance against the sircars, banyans, and money-changers professing Hindooism, whose usurious practices far exceed any thing related of the scattered tribes of Israel.

Shops at up-country stations, without being half so well supplied, are generally ten times dearer than those of Calcutta. Raspberry jam, the pre-

serve most in request at an Indian table, bears a most preposterous price; a jar, which is sold in London for about four shillings, will cost twenty-four, and can never be purchased for less than sixteen. The charge at Cawnpore for half-a-pint of salad-oil is six shillings; and, in a camp, a two-pound square jar of pickles, and a pine cheese, have sold for three pounds each—an act of extravagance in the consumer which is without any excuse, the native pickles being infinitely superior to those brought from England, and the Hissar cheeses of far better quality than the importations, which are always either dry or rancid.

There are at least half-a-dozen French and English milliners of note settled in Calcutta, some of whom make regular voyages to Paris and London, for the purchase of their own investments. The displays of their show-rooms materially depend upon the shipping arrivals; sometimes there is a "beggarly account of empty boxes," and at others the different apartments are replete with temptations. The high rents of houses, in good situations, in Calcutta, and the necessity of keeping large establishments of servants, preclude the possibility of obtaining goods of any kind, at these fashionable marts, at low prices. The milliners of Calcutta seem to depend entirely upon supplies from Europe; they have never thought of enlisting Chinese manufactures into their service. Large importations of silks, satins, damasks, crapes, &c., arrive from Canton, and some of the higher orders of native merchants have pattern-books to show, filled with the richest of these fabrics woven in the most exquisite patterns; but the ladies of Calcutta disdain to appear in dresses which would be eagerly coveted by those of the great capitals of Europe.—Chinese silks and satins are scarcely to be seen in any of the shops; if they should be wanted, they must be sought out like the Cashmeres, the Dacca muslins, and the Benares tissues, concealed from public view in chests and warehouses. At half the expense of their present apparel, the Calcutta belles might be more splendidly attired than any female community in the world; but the rage for European frippery is so great, that the most magnificent fabrics of the East would have no chance against a painted muslin. If these rich products were more seen, the purchase would be more highly appreciated; but the custom of the country, founded in all probability on the deleterious effects of the climate, forbids the outward show which forms the characteristic, and the attraction, also, of a London shop. The dampness of the atmosphere of Bengal is ruinous to every delicate article exposed to it; and the natives of India have not yet learned the methods by which careful English dealers preserve their stock from dust and dilapidation, nor can they acquire these arts from their European employers, who are in a great measure ignorant of the principles of trade, and are induced to become general dealers in consequence of finding it the most profitable speculation. The indolence occasioned by the heat is usually to great to admit of much personal superintendence; the details are left to native assistants, and, with very few exceptions, every kind of merchandize is huddled together in confusion, or arranged in the most tasteless manner.

The jewellers and the establishment of the leading booksellers have already been exempted from this charge, and the praise which their respective owners merit, must be awarded to the European proprietors of a shop, the prettiest in Calcutta, devoted wholly to the sale of Chinese goods. There is a constant succession of new articles to be seen in this shop, captains of traders aud people desirous of sending presents to England, speedily sweeping away the whole stock. The goods are charged at about double the price for which they may be purchased at Canton; but there are always many pretty things which come within the reach of humble purses, and the privilege of looking over some of the most beautiful specimens of human ingenuity is worth a few rupees. This shop, though not large, occupies a good situation upon the Esplanade; it is remarkably clean and cheerful, offering a striking contrast to the dens of dirt and darkness, which in many parts of the city look more like rat-holes than the emporiums of European goods. The door is generally thronged with carriages, and in the hot season there is some difficulty in getting up to it; the *gareewans*, or coachmen, of Calcutta, ignorant of the etiquette practised in England, do not draw off at the approach of another vehicle with a party to set down or take up. For want of some arrangement of this kind, there are perpetual contests for mastery; and timid people, or those who have a thin attendance of servants to clear the way, prefer walking a few yards to disputing possession with the carriage at the door. In narrow passages, equipages are obliged to drive away to make room for each other; but where space will permit, it seems a point of honor amongst the coachmen to cause as much confusion and hubbub as possible. Every body drives on which side the road he pleases to take, either left or right; and, considering the vast number of carriages which assemble in the public places, it is wonderful how few accidents occur.

During the cold season, ladies may shop in Calcutta without any personal inconvenience, and many are not to be deterred by the heat from pursuing so favorite an amusement. The arrival of adventurers from France, who hire apartments for the display of their goods, is a great temptation to venture out; these people, who are anxious to get away again with the vessel which brought them, usually undersell the regular shopkeepers, disposing of the stock remaining on hand by public outcry, a favorite method all over India. Upon some of these occasions, amazing bargains are to be had, of which the natives usually avail themselves; boatmen and others upon the very smallest wages being enabled to make purchases, which they are certain of selling to advantage in the upper country, though at a hundred per cent. below the regular price. English captains of vessels have been known to open a warehouse on their own account, and to sell their investments by retail; but whether the experiment answered or failed, the example has not been generally followed. The first arrivals in the market, or those freighted with goods in demand, of course, speedily get rid of their cargo; while the remainder are frequently compelled to make great sacrifices. The pale ale, so much in request at an Indian table, is often sold at a dead loss, and may be had occasionally at Calcutta at three or four rupees a dozen to the consumer; but it is never procurable at the same comparative rate of cheapness in the Mofussil. Should the new steam-boats, which have been sent out from England, prove successful in the navigation of the Ganges to Allahabad or Cawnpore, vast additions and improvements will take place in the shops already established at those and the intermediate stations. The reduced rate of European goods, and the more general introduction of articles of native manufacture, will enable the British residents of India to live as well upon inferior allowances, as they were accustomed to do in the days of splendid incomes and profuse expenditure. Mango, corunder, hybiscus, guava, and various other jams and jellies, when prepared without an admixture of spice, are quite equal to the finest of Hoffman's fruits. Hams and bacon can be as well cured in India as in England; and the table at least may be independent of every European article excepting wine and beer, while very excellent cider may be made from melons.

All the musical instruments used in India are importations: as yet no manufactory of the kind has been ventured upon. Very few carriages are brought from England, there being a large coach-maker's establishment of great celebrity in Calcutta, besides others in different parts of the country; some maintained by Europeans, and others by natives, who work from the instructions of gentlemen, especially artillery and engineer officers, possessing amateur acquaintance with the art. All sorts of harness and saddlery have attained great perfection at Cawnpore, where the natives work upon leather with much success, producing such delicate articles as white kid gloves of a very fair quality; their saddles and bridles are exceedingly neat and elegant, and if not so durable as those of English make, are infinitely cheaper. The price of a hunting-saddle and bridle imported from England is twelve pounds, while those manufactured at Cawnpore may be had for one, equally good in appearance, though they probably will not last quite so long. The great demand for leather at Cawnpore has proved very fatal to troop-horses, and those of travellers proceeding to that station. The villages, at the distance of a march or two, are inhabited by gangs of miscreants, who do not hesitate to procure so lucrative an article of commerce by the most nefarious means. It is their custom to poison the wells, or otherwise to administer some deleterious mixture to the horses encamped in their neighborhood. They either die immediately, or drop upon the road during their next day's march, and their skins are stripped off and sold at Cawnpore. It is seldom that a native of India can be detected in his knaveries. After many vain attempts to discover the perpetrators of these enormities, gentlemen who lost their horses came to a determination to defeat the projects of the wretches by whom they had been destroyed. Upon the death of any animal, they had it flayed instantly by their own people, and either carried away the skin or caused it to be burned upon the spot. This plan has at length prove effectual: the horse-killers, tired of their vain attempts to secure the object of their villainy, allow the most tempting studs to pass unmolested, the *thanadars* in the neighborhood having received orders to warn all travellers of the danger, and to recommend them, in the event of any casualty amongst their cattle, not to leave the skin behind. There is an exceedingly good English coach-maker settled at Cawnpore, and very excellent and elegant carriages are made at Bareilly, a place famous for the beauty of its household furniture, which is painted and lackered with much taste, and in a peculiar manner.—*Scenes and Characteristics of Hindostan.*

The following spirited description of the march of Bonaparte's army to Milan, after the battle of Monte Notte, is from the Revolutionary Epic of D'Israeli the younger, and has not, we believe, been previously published in this country.

Ere the morning beam
Had tipped with sunlight all the mountain tops,
The Conqueror's march commenced—a march indeed
As wondrous as his war! Ye royal bands,
Hirelings of Kings and Emperors, vain your strife
With these bold sons of freedom, as the note
Of glory's trumpet on the distant wind,
Catches their eager ear. On with the march!
No pause but combat, and the victor field
Their only resting place: the cause his own,
Devoutly feels each warlike citizen.
For slaves be food and rest—their own great hearts
Alone sustain them—and their aching eyes
Are weary only with the restless ken
That seeks the unknown foe. A warlike march,
Warriors alone may form. No suttling crowd
Impede their noble course, with all the lures
That tempt the victim to the heartless strife.
Each steed its forage—on his bayonet's point
His scanty ration each bold soldier bears:
And trusting to his own good sword alone,
Within a hostile land adventurous flings
His reckless form. On with the ceaseless march!
The startled warder, on his warlike tower,
Guards well the gates the foe disdains to view;
Passing contemptuous by those mighty walls,
Whose awful turrets many a summer host
Of proud invaders, prouder held at bay;
And stopped the tide of war, like some vast mole
Breaking the ocean's swell: its headlong wave
Back hurling with disdain—the bulwark of the land!
But covered fort, and towering citadel,
Are, for these novel warriors, but the guides
That trace their road of conquest: urging on
Their course resistless, till the rising towers
Denote the regal city of the land,
All meaner prey despising. This their aim,
Their object this—no idle fence of arms,
Maiming some feeble member with a scratch,
But in its very heart to stab the land,
And so end all. On with the ceaseless march!
The billowy rushing of the winding river,
Than which a nobler monument to realms,
Nature or art ne'er gave: for these bold men
Is but a bath to renovate their strength,
And slake the fever of their heated frames.
Wild in the wave they rush with eager glee,
Flouncing and shouting in the troubled waters,
And tossing in the air the glittering drops:
Or gay amidst their travail ever gay,
Dash in each other's face the sparkling shower—
On with the ceaseless march! Short respite grants
Their ardent chief: the fisher's bark affords
A ferry to the footmen, or they twine
With practised skill, light baskets, that the girls
Crowned with fresh fruit—the fig and purple vine,
Or rosy peach, that loves the radiant plain,
Almond of glittering light, or grateful gourd,
To morning market bear with jocund song:
Into a lighter bark, these baskets light,
The warrior's twine: nor Cupid when he floats
On some slight flower down his Indian stream,
More fragile craft commands, than that which bears
These haughty foemen to the awful war!

THE PRICES OF LABOR IN FRANCE.

The common wages of a hired laborer, in France is $37.50 for a man, and $18.75 for a woman, annually. "The taxes upon the land are equal to one-fifth of its nett products."

METEOROLOGICAL TABLE FOR MARCH, 1836,

KEPT AT THE ALBANY ACADEMY.

Days Mo.	MORNING. Barom.	Attach. Therm.	Dew Point.	EVENING. Barom.	Attach. Therm.	Dew Point.	THERMOMETER. 6½ A.M.	3 P. M.	9 P. M.	Mean.	WINDS. 8 A. M.	Noon.	10 P.M.	WEATHER. Morning.	Evening.	Rain Gauge.	REMARKS.
1	29.54	29.°	31.°	29.36	33.°	34.°	28	42	35	33.00	SSW	SSW	NW	Cloudy.	Cloudy.	0.73	Rain.
2	29.92	27.5	12.	30.17	23.	2.	16	15	8	11.17	NW	NW	NW	Clear.	Clear.		
⊕	30.20	22.	7.	30.18	26.	19.	5	30	16	18.00	SSW	NW	NW	Cloudy.	Clear.		
4	30.04	27.5	20.	29.77	36.5	26.	11	45	38	35.17	SSW	SSW	SSW	Clear.	Clear.		
5	29.75	35.	16.	29.96	29.75	8.	34	24	10	18.00	NW	NW	NW	Cloudy.	Clear.		
6	29.975	21.5	3.	29.80	27 25	15.	6	30	22	22.17	SW	SW	SW	Cloudy.	Clear.		
7	29.91	28.	13.	29.825	27.5	9.	23	27	11	17.17	NW	N	N	Clear.	Cloudy.		
8	29.79	22.	2.	29.85	27.	8.	4	31	16	16.50	N	NE	NW	Clear.	Clear.		
9	30.065	19.	0.	30.00	29.	13.	1	36	32	28.17	NE	S	S	Clear.	Cloudy.		
◐	29.93	35.	37.	29.54	36.	35.	32	40	38	37.83	S	S	S	Cloudy.	Cloudy.	0.30	Rain.
11	29.70	38.	12.	29.81	36.	18.	39	37	19	26.33	W	W	NW	Clear.	Clear.		
12	30.23	28.	3.	30.34	27.	5.	11	20	11	12.50	NW	NW	NW	Clear.	Clear.		
13	30.52	22.5	6.	30.24	24.5	16.	2	23	24	21.67	WNW	SW	SSW	Clear.	Cloudy.	0.10	Snow.
14	29.97	33.	30.	30.18	32.	17.	34	34	22	27.83	SW	NW	NW	Cloudy.	Clear.		
15	30.39	32.	12.	30.44	32.	17.	21	32	20	22.67	NW	NW	NW	Clear.	Cloudy.		
16	30.565	25.5	8.	30.34	32.	15.	11	38	29	27.67	N	S	S	Clear.	Clear.		
●	29.88	33.	30.5	29.67	36.	35.	21	39	36	33.83	S	SW	SW	Cloudy.	Cloudy.	0.15	Rain.
18	29.91	39.	16.	30.17	33.5	16.	32	30	23	25.00	NW	NW	NW	Clear.	Clear.		
19	30.36	30.	6.	30.17	33.	10.	12	32	20	22.00	NNW	NNW	SW	Clear.	Cloudy.		
20	30.11	29.	13.	29.98	33.	13.	16	34	27	25.33	N	NW	NW	Clear.	Clear.		
21	.....	....	....	.....	....	....	14	38	32	31.00	WNW	S	SSW	Clear.	Cloudy.		
22	.....	....	....	.....	....	....	32	36	30	31.33	SSW	N	N	Cloudy.	Cloudy.	0.42	Snow.
23	29.85	33.	16.	30.11	33.	11.	24	32	20	23.33	NW	NW	NW	Clear.	Clear.		
24	30.125	25.	11.	30.165	33.	22.	12	38	31	28.33	NE	NW	NW	Clear.	Cloudy.		
◐	30.41	34.	19.	30.45	34.	15.	20	34	20	22.83	NE	NE	N	Clear.	Cloudy.		
26	30.59	29.5	8.	30.41	33.	11.	9	39	25	26.50	NE	NE	SSW	Clear.	Clear.		
27	30.20	32.	16.	30.02	38.	24.	22	49	38	39.00	SSW	SSW	SSW	Clear.	Clear.		First blue bird seen.
28	30.10	39.75	33.	30.08	41.5	33.	38	50	40	41.67	NNE	NE	NE	Clear.	Clear.		
29	30.32	38.	35.	30.39	39.	33.	32	43	36	37.50	NE	NE	NE	Cloudy.	Cloudy.		
30	30.46	42.	26.	.....	....	....	35	48	37	39.33	S	S	S	Cloudy.	Cloudy.		
31	30.48	42.	30.	30.345	46.	30.	31	52	36	39.33	S	SE	SE	Clear.	Clear.		First robin seen.

RESULTS.

Mean of first half of the month,..... 23.21°
Mean of second half of the month,..... 30.87
Mean of the whole month, ... 27.04

Winds.—North 3⅜ days; north-east 4; south-east ⅜; south S⅜; south-west 2⅜; west 1⅓; north-west 10. Prevailing wind, *north-west.*

Rain on 3 days—snow on 2 days.

Rain Gauge, 1 inch and 70-100ths.

Warmest day, 31st; coldest day, 2d.

Highest deg. 52; lowest 1; monthly range 51.

Mean of Barometer, corrected for Capillarity, and reduced to 32°.

Morning, ... 30.160 inches.
Evening, ... 30.106 do.
Maximum of Barometer,..... 30.59 do.
Minimum, ... 29.36 do.
Monthly range,..... 1.23 do.
Mean of Dew-Point, morning,..... 16° 25
evening,..... 18° 21
Mean force of vapor, .128 inches.
Mean deg. of dryness, 12° 85 thermometric scale.
do. moisture, 640. nat. scale Hygrom.
Least degree of moisture observed, .410.

Weight of Vapor in a cubic foot.

Mean,. ..... 1.499 grains.
Maximum,..... 2.799 do.
Minimum,..... 1.079 grains.
Amount of evaporation, ... 2.263 inches.

ARTESIAN WELLS.

By boring the ground perpendicularly, in certain localities, to a sufficient depth, sheets of subterranean water are reached, which mount to the surface through the channel opened for it by the auger, and frequently forms an elevated and abundant jet. Spouting fountains formed by art, or even simple wells of a small diameter, supplied by water coming from great depth, bear the name of Artesian fountains, Artesian wells, and bored wells.—They are called Artesian from Artois, a province in the north of France, where it appears the greatest attention has been paid to the discovering of subterranean waters. It cannot, however, be denied that this sort of well was perfectly familiar to the ancients, and that they knew how to make them.

That extraordinary people, the Chinese, are also said to have known the use of Artesian fountains for thousands of years. In certain parts of Italy it is very probable that Artesian wells were used at remote periods. Bernardini Ramazzini informs us, in fact, that in digging among the ruins at the very ancient town of Modena, leaden pipes were sometimes found communicating apparently with ancient wells. Now, what could have been the use of these, but to discover, at the depth of twenty or twenty-five metres (that is to say, much below the depth of unwholesome water resulting from local infiltrations), the clear and pure sheet of water which supplies all the fountains of the modern city? In France there are no means of ascertaining when they were first used. The most ancient known is said to be of the year 1126, and exists in the old Carthusian convent at Lilliers, in Artois. Stuttgard, the capital of Wurtemberg, if we are not misinformed, also possesses Artesian wells of a remote date, which, however, cannot be fixed. The same may be said of the well existing within the precincts of Carisbrook Castle, in the Isle of Wight, celebrated as the prison of the unfortunate Charles I. and which is three hundred feet in depth. But when we consider that some of the mason-work of the castle has existed for twelve hundred years, we may boldly assert that the well which supplied the garrison with water is coeval with the first foundation of that ancient fortress. Adverting again to Africa, it appears from a passage in Shaw's Travels, that the inhabitants of the desert of Sahara have been long acquainted with Artesian wells. Mr. Shaw thus speaks, upon the authority of the natives themselves:—"The wad-reag is a collection of villages situated far in the interior of Sahara. The villages have neither springs nor fountains. The inhabitants procure water in a curious manner, by digging wells one hundred and sometimes two hundred fathoms deep, and never fail to find water in abundance To effect their purpose, they remove several beds of sand and gravel, until they find a sort of stone resembling slate, which they know is seated precisely above what is called bahar-taht el erd, or 'the sea beneath the earth.' This stone is easily pierced—after which the water issues so suddenly and so abundantly, that those who descend for this operation are sometimes reached by it and drowned, or suffocated, though they are taken out as quickly as possible."

Before his arrival in France, Dominick Cassini, about the middle of the seventeenth century, had caused to be constructed at Fort Urban, a well, the water of which spouted into the air fifteen feet above the ground; and, when confined within a tube, it ascended to the roofs of the houses. These historical details should suffice to make us hope that even those whose constant rule is to give their approbation only to what is ancient, will now become the advocates of Artesian wells.—*Arago.*

☞TO THE LITERARY.

The proprietor of the Zodiac having thus far been sustained in his efforts, by an enlightened community, and having established his periodical on a footing which leaves him no further room to doubt its success, has resolved to invite the attention of the public to the following project. He will pay for the best Original Tale, founded on any portion of the History of this country, $100. For the best popular Essay on the best method of advancing the General Interests of the nation, $100. And for the best Poem, without limitation as to subject, not to contain less than 100 lines, $50. A committee of literary gentlemen will decide on the claims of each competitor. The MSS. to contain a reference to the author's real name, and to become the property of the proprietor, or to be returned at his option. Competitors for the above premiums will please send their communications, postage paid, by the first day of July next, in all which month the second volume will be commenced.

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